

School of Education

**Teaching Academic Writing to Iraqi Undergraduate Students: An
Investigation into the Effectiveness of a Genre-Process Approach**

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DECLARATION

To the best of my knowledge and belief, this thesis contains no material previously published by any other person except where due acknowledgement has been made. This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

Signed:

(Sami Al-Asadi)

Date: ____/____/____

DEDICATION

In the Name of Allah, the Most Gracious, the Dispenser of Grace

I dedicate my work to my late father who taught me sacrifice and love.

ACKNOWLEDGEMENTS

I would firstly like to express my sincerest gratitude and appreciation to my beloved supervisors: Professor Dr Jennifer Nicol, my principal supervisor, and Dr Judith Rochecouste, my co-supervisor. Without their extremely generous and constructive input, and whole-hearted guidance, this study would never have been completed. Also their expertise and insightful vision enabled me to develop a deeper theoretical understanding in the area of research interest and enlightened me with regard to the direction of my work.

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ABSTRACT

There is a growing body of research calling for a more coherent and comprehensive approach to the teaching of academic writing. Tertiary level Arab EFL students face a significant challenge in learning to write in English for academic purposes. The academic English discourse community requires control over cognitive skills and strategies as well as linguistic competency –the ability to respond to the rhetorical and socio-cultural conventions of academic writing. A modified integrated process-genre approach (MIM) to the teaching of academic writing was implemented with EFL undergraduate students at Al-Qadisiya University in Iraq, in order to assess its potential to improve their writing outcomes.

In particular, the extent to which the MIM influences the development of argumentation and contributes to improved reasoning skills evidenced by students' ability to develop quality arguments in support of their claims was investigated.

Third-year EFL students were randomly assigned to an intervention group (MIM-based instruction) and a non-intervention group (product-based approach instruction). Participants' academic argumentative writing proficiency was assessed at the beginning and end of the intervention period to determine the gains made.

An Exploratory Sequential Mixed Methods Research Design (Creswell & Plano Clark, 2007) was employed to address the first subsidiary research question. Data were collected from students' pre- and post-test essays which were assessed and ranked by Representative Educated Readers (RERs) against four writing quality criteria: organisation, content, vocabulary and language use and mechanics. The two groups showed no statistically significant differences with respect to achievement of the writing quality criteria in the pre-test and students from both groups exhibited poor performance in the application of informal reasoning.

In the post-test, statistically significant differences were evident with some of the intervention group students achieving improvements in the quality of their argumentation and informal reasoning. These students showed improvement in their ability to construct more structurally complex and reasonably-grounded arguments and to employ a wider range of informal reasoning patterns in comparison to their peers in the non-intervention group.

To address the second sub-research question, data analysis of the students' pre- and post-test essays consists of two phases: 1. identifying quality arguments in terms of their structural components (Sadler and Zeidler (2005a, p.127) and students' ability to provide evidentiary grounds (Kuhn,1991); 2. Sadler and Zeidler's (2005b, p.73) categorisation was adopted in order to identify the informal reasoning patterns, the students demonstrated in their pre- and post-test essays

The results suggest that the MIM had a positive influence on the development of the writing skills and strategies of some Iraqi EFL students. Possible reasons for its limited effectiveness however include firstly, the continuing influence of the product-based method of teaching writing and secondly focussing the writing on a topic relevant to their life experiences appears. For some students at least, the topic appeared to present an insurmountable challenge to their current repertoire of L2 vocabulary and grammar which in turn constrained the expression of ideas in the writing process. Thirdly, the exposure to a more challenging pedagogy, particularly one that required students to employ reflective thinking may also have limited its success. Fourthly the relatively short timeframe over which the intervention was delivered and which curtailed opportunities for more explicit writing instruction, systematic practice, and focused exposure to authentic model texts may have resulted in further limitations.

The findings of this study suggest that combining the merits of both the process and genre approaches has the potential to develop a more comprehensive and coherent model of writing by taking into account the cognitive and social demands of academic writing, but that further refinements to the MIM are needed in order for it to have a more comprehensive effect on Arab students.

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CHAPTER 1:

INTRODUCTION

1.0 Introduction

The history of teaching academic writing has witnessed a succession of distinct approaches with competing pedagogical foci, in which particular approaches dominate and then fade, but never really disappear. However, the emphasis and debate focusses on four major approaches: the product, process, genre-based and integrated process-genre approaches. The drawbacks inherent in the product-based method of teaching academic writing highlight the fact that many pedagogical issues and theoretical perspectives have been left unresolved, a situation which constitutes a driving force to seek an alternative writing pedagogy. This is particularly significant in the Iraqi context, where product-based approaches to teaching academic writing dominate.

A defining characteristic of educational policy in Iraq is the total authority of the State. As well as organising, financing and orienting all levels of education, teaching is undertaken in accordance with the philosophy and general objectives and aims the State seeks to achieve (UNESCO, 2010). As such, mainstream university English as a Foreign Language (EFL) is taught in accordance with nationally-sanctioned syllabi and only textbooks authorised by the Ministry of Higher Education and Scientific Research can be used. In Harb's (2008, p.9) view, in Iraq "textbooks have not been changed since the 1950s". Under these conditions, UNESCO (2010) has observed that syllabi have been

static and limited by political constraints and therefore renewal of the curriculum has become an urgent challenge.

The activities in EFL writing classes are designated in the prescribed course textbook by Alexander (1965) which was originally designed as a writing curriculum. Its materials clearly indicate that learning to write is conceived of as a graded sequence of identifiable and complementary units. Each unit has specific learning points that progress from easy to difficult. In Alexander's (1976) words "... [the student] should never be required to do anything which is beyond his capacity. A well-designed course is one which takes into account what might be called the student's 'state of readiness': the point where he can proceed from easy to difficult (p. xii).

The influence of the product approach is still prevailing. The early emphasis is on basic sentence structures. Subsequently, narrative and descriptive paragraphs based on model paragraphs, then model texts, are introduced. Only one chapter of Alexander's textbook provides instructions on how to write an argumentative essay. Like narrative, descriptive and literary writing methodologies, the writing instruction is based on exemplar texts and the writing drills and assignments are carried out through controlled composition and traditional rhetorical approaches.

1.1 Background to the Research Problem

The literature on EFL writing (for example, El-Aswad, 2002; Al-Hazmi, 2006; Ezza, 2010) highlights that academic writing pedagogy in Arab universities is still driven by traditional writing methodologies

characteristic of the 1950s and 1960s and, as such, is characterised by “guided-composition at lower levels and free-composition at higher levels, with a mixture of both at intermediate levels” (Al-Hazmi, 2006, p. 36).

The theoretical foundations and the pedagogical focus of the current product-based writing instruction have come under criticisms for several reasons. First, it is characterised as being prescriptive and linear. These features do not recognise writing a complex recursive thinking process that the writer goes through, nor one in which the writer assumes responsibility for generating ideas, planning, refining and rethinking (Silva, 1990, p.15). These features also discourage the individual’s original and creative thinking and writing (Silva, 1993). Writing in this pedagogy has been reduced to “a matter of using correct syntax, spelling and punctuation, to produce accurate and correct, perfect sentences, paragraphs and essays which fit prescribed patterns” (Silva & Matsuda, 2002, p. 260).

However, Raimes (1983, p.261) argued that when students manipulate the linguistic components of writing, they do no more than “lock themselves into a semantic and rhetorical prison...[for] grammatical accuracy and rhetorical formulae have little force if the piece of writing is not expressing the writers clearly and forcefully with no involved imagination”. In Hyland’s (2003) view, the mastery of these decontextualised language features do not make a contribution for true writing proficiency as learning and acquiring grammar and lexis cannot ensure that the students will write good compositions

Syntactic complexity and grammatical accuracy, however, are not the only features of writing improvement and may not even be the best measures of good writing. Most teachers are familiar with students who can construct sentences and yet are unable to produce appropriate written texts, while fewer errors in an essay may simply reveal a reluctance to take risks, rather than indicate progress (p.3).

Likewise, it is claimed that though EFL students master the syntactic patterns of the target language, their compositions still have a persistently un-English feel” (Doushaq, 1986, p. 28) and “a taste of peculiar strangeness” (Koch, 1981, p. 2).

Second, under product-based pedagogy, learning is one-way transmission of knowledge from the teacher to the student and thus collaboration between them is underused and does not seem to be consistently applied. University English writing classes therefore undervalue, or even ignore, individual creativity, and thus self-motivation and interest in learning to write are scarified. The teacher is the only audience taking on the role of editor and proof-reader and dispenser of knowledge “Arab students are often restricted to the ideas suggested by the teacher and therefore do not feel free to express themselves the way they like or have any special motivation for writing about the topic” (Kharma & Hajjaj, 1989, p.187).

This product-based writing pedagogy shares some features with the “banking concept” of teaching methods as described by Freire (1998, p. 53)

...in which an all-knowing teacher deposits knowledge into passive students. In the banking model, students are restricted to receiving, filing, and storing the information deposited by the teacher. Knowledge is viewed as fixed, and in the end it is "the people themselves who are filed away through the lack of creativity

Writing tasks are therefore perceived as "jars, with predefined configurations into which content is poured" (Johns 1997, p.8), negating "the existence of the writers and their purposes, motivations, opinions and individual histories, thus putting them in a peripheral place in the classroom, instead of at the centre" (Bizzell, 1986, p.52). One immediate implication of the above assumptions is that writing pedagogy in Iraq, and the Arab world more broadly, has become a decontextualised and artificial process (Khalil, 1985; Sa'adeddin, 1989; El-Hibir & Al-Taha, 1992).

1.2 Statement of the Problem

EFL university-level students in Iraq, as in the rest of the Arab world, still encounter many challenges in learning to write in appropriately and effectively an academic setting. These challenges can be attributed to the limitations of the theoretical foundations and the pedagogical focus of the existing product-based method of teaching academic writing. Lack of knowledge of the various cognitive composing phases is a shortcoming inherited in EFL writing instruction as identified by several researchers (El-Daly, 1991; Fageeh, 2004; Al-Khafaji, 2005; Ezza, 2010) in the area of EFL writing in the Arab context. These researchers found that writing is still predominately treated as a linear and prescriptive activity

overlooking the fact that it is a complex activity. A factor that substantially impedes students' abilities to develop and foster the skills they need to learn to express and evaluate their opinions and illustrate subject matter knowledge in academia. Students need an explicit instruction of the recursive cognitive processes and sub-processes and decision-making process underlying successful composition so that they can consciously learn to brainstorm, generate, plan their ideas, seek feedback, and allow them to go back and forth to evaluate and reformulate their opinions as they attempt to approximate their meanings before completing the writing assignment.

Another shortcoming of the current writing instruction at Arab tertiary level is the fact that students have limited exposure to academic genre schema and as a result lack familiarity with the conventions and expectations of academic writing. They "were generally not aware of English rhetoric and writing conventions and switched to using L1 conventions; the result of this was the production of extremely disorganized paragraphs in their L2 essays" (El-Aswad, 2002, p.316). A factor that hinders their ability to develop awareness of the sociocultural textual practices and norms acceptable in English-speaking community (Al-Khuweileh & Al-Shoumali, 2000; Al-Hazmi & Schofield, 2007; El-Aswad, 2002). This issue comes to bear quite heavily in the context of this study when recognising the fact that the rhetorical patterns of English texts differ from those in other languages (Kaplan, 1966; Hirose, 2003).

Several research studies (Elkhatib, 1984; Alam, 1993; El-Mortaji, 2001; Halimah; 2001; El-Aswad, 2002; Alharithi, 2011; Al-Sawalha & Chow,

2012) have emerged to investigate the writing processes and strategies used by Arab EFL students. Other ones in genre approach are devoted to investigating the salient linguistic features of Standard Arabic prose (Al-Jubouri, 1984; Johnstone, 1990) and identifying and contrasting the rhetorical textual organization differences between Arabic and other languages (mostly English) (Ouaouicha, 1986; Zizi, 1987). However, though these studies have provided insights that attend to some of the concerns of the existing approach in the teaching and learning of L2 (or L3) writing, they have their limitations in that they were conducted in a rigidly separate rather than complementary fashion.

Therefore, there is still a pressing need to devise a more comprehensive and complementary pedagogical approach. An approach that pulls together an explicit instruction of the cognitive processes of composition and systematic instruction designed to facilitate students' awareness of the textual conventions of academic writing so that they can effectively and successfully achieve their communicative goals into an English-speaking community, and thereby gain an entry to effectively participate into this community (Johns, 1997).

1.3 Objectives of the Study and Research Questions

Arab EFL university-level students still experience many difficulties in their essay writing. This research aims to propose a modified process–genre integrated model (MIM) to teach writing to Iraqi university –level students majoring in EFL and to investigate how effective it is in a particular EFL university setting. In order to accomplish the purpose of the study, the following two main aims formulated:

1. To investigate the influence of the MIM-based instructional approach on the development of argumentation in Iraqi EFL undergraduates' academic writing;
2. The significance of the MIM-based instructional approach in enabling the students to display critical thinking skills when substantiating the position they advocate on a controversial issue.

These objectives are encapsulated in the context of the following overarching exploratory research question: How effective is the implementation of the MIM in teaching academic writing to Iraqi EFL undergraduate students?

This study is an endeavour to address the following two subsidiary questions:

1. To what extent does the implementation of the MIM to teach writing can improve the quality of the students' academic writing?
2. How important is the role of the MIM in improving the students' reasoning as evidenced by their ability to demonstrate informal reasoning patterns and quality arguments to support the claims they put forward?

1.4 Overview of Methodology

To address the exploratory nature of the first sub-research questions, this study used a mixed methods research methodology (Johnson, Onwuegbuzie & Turner, 2007) which “combines elements of qualitative and quantitative approaches...for the purpose of breadth and depth of understanding and corroboration” (p.123). The Exploratory Sequential

Mixed Methods Research Design, as defined and classified by Creswell and Plano Clark (2007), was applied to address the second subsidiary research question for the reasons explained below. It is considered as appropriate and useful research design to draw on to guide the process of collecting and analysing the data when a need exists to first qualitatively explore unknown or under researched problem. It helps provide the foundations for the development of the subsequent quantitative method to have a more complete picture of the problem being considered (Creswell & Plano Clark, 2007) suggesting that the organisation and flow of the data collection and analysis weighed qualitatively.

To address the second subsidiary research question, data analysis of the students' pre- and post-test essays consists of two phases: 1. identifying quality argument in terms of its structural components (Sadler & Zeidler, 2005a, p.127) and students' ability to provide evidentiary grounds (Kuhn, 1991). 2. Sadler and Zeidler's (2005b, p.73) categorisation was adopted in order to identify the informal reasoning patterns, the students demonstrate in their pre- and post-test essays.

In order to address these research questions, the study involved the implementation of the MIM with the intervention group of third year undergraduate students enrolled in an EFL class at an Iraqi university. This group was instructed using the pedagogy prescribed by the MIM, while the other group, no-intervention, continued to be taught using a product-based approach. All other factors including teacher, writing theme, length of time were consistent for the two groups. In order to

compare the achievements of the two groups, pre- and post-tests were carried out. Students' compositions were assessed and rated by eight native English-speaking Representative Educated Readers (RERs), each of whom used a rating scheme. The findings from the pre-test showed no significant differences in the performance between the participants in the two groups. The post-test results indicated significant improvements among the intervention group in comparison to the non-intervention group. These findings suggested that the MIM has the potential to promote change in students' writing performance.

1.5 Significance of the Study

The study is significant for a number of reasons. Its practical significance covers three areas. Firstly, it is an endeavour to implement a more comprehensive and balanced model to teach writing to Iraqi EFL undergraduates than the current product-oriented approach. A writing approach incorporating the best merits of both process and genre traditions is likely to promise some benefits for students. It attends to their needs to overcome and accommodate the demands of writing as a complex socio-cognitive endeavour. It is hoped to scaffold them to nurture awareness of the textual conventions of English academic argumentative genre and its recurring linguistic features and to gain the requisite knowledge about the stages of writing process. Such writing approach is also expected to develop and foster their critical thinking skills when negotiating and resolving a controversial issue.

Secondly, this study sought to establish and develop innovative instructional procedures through scaffolding and constructivist pedagogy

where students are supported with adult guidance and peer collaboration. This movement allows for students' reflection and negotiation to find their place in a supportive learning environment and gain the skills necessary to improving their writing competence and critical thinking skills.

Thirdly, with regard to the Iraqi context, this study is important since it is motivated by and responds to a national educational need articulated and stressed by Baghdad National Seminar on Strategies and Curriculum Reform (BNSSCR) (2004). The Seminar (p.1) explicitly emphasized the need for dynamic and efficient teaching and learning methods in order to correct "out-dated teaching methods, negative learning, rote memorization without deep comprehension, and its distance from modern instructional methods that have been proven effective on the world stage" and to "encourage critical thinking, and adopt modern instructional methods that have been proven effective" "through which students could be supported to obtain information from multiple sources and to apply knowledge through analysis and logical thinking". In response to this call, this study is hoped to explore one approach to revitalising the teaching of academic writing to EFL students in Iraq:

Fourthly, the relevant literature shows that there is paucity of research to date available dedicated to investigate the extent to which implementing the MIM has influence on the development of writing competence and critical thinking skills of Arab university level students and none has yet been specifically concerned with Iraqi students. It can be claimed that this study is the first of its kind to be conducted in a particular EFL

writing context. It is hoped that the findings of this study can bridge some of the gaps that exist in the ESF writing literature and provide EFL teachers with a more effective and coherent approach to teach writing to their students.

Theoretically, the findings of this study are hoped to make theoretical and practical contributions to the emerging literature on EFL writing theory and practice in the Arab world and in the Iraqi context, in particular. A paradigm shift from the traditional writing instruction towards focusing on the significance of learning in and out of social interaction through the use of scaffolding in a supportive learning community is explored. The study marks a shift in view of writing as an autonomous activity to one that is shared, negotiated between the teacher and students and among students themselves allowing them to create an authentic social context for learning and thus make writing more purposeful and realistic. Importantly, the study draws Iraqi EFL writing instructors into reconsidering their pedagogical practices and teaching materials in such a way that allows teaching writing in a collaborative, supportive environment.

1.6 Limitations of the Study

This study has several limitations. It was limited to a sample of 92 students: a relatively small number in comparison with other exploratory studies and representing only 28.9% of the total 270 third-year students registered in Iraqi university EFL classes during the academic year 2012/2013. Consequently, the small number of participants restricts transferring the findings beyond this particular Iraqi cohort.

Students' pre- and post-test written products were the only data. The methodology did not include interviews or questionnaires to gather students' or the teacher's perceptions of the MIM. Further research needs to include this qualitative component.

The current study has only placed emphasis on exploring and familiarising students with the L2 rhetorical stages and moves of academic argumentative genre, and overlooked incorporating explicit instruction on identifying cultural differences and similarities between L1 (Arabic) and L2 in terms of their rhetorical thought patterns. Of much relevance is that time length may have been another contributing factor to the results obtained from this study. One academic term (three months) is an insufficient duration to adequately account for the richness and novelty involved in the implementation of the MIM as a new writing intervention. Common pedagogical sense claims that achieving improvement in writing competence is a slow process, and the shorter the instructional period, the less the improvement in the quality of student's writing is anticipated (Burton 1973, cited in Dyer, 1996).

Timed writing condition may have been another limitation that affected the findings of this study. In this study, pre-and post-test writing assignments of both the intervention and non-intervention groups were completed within a specific timeline (90 minutes). Time restrictions may place a considerable amount of psychological pressure on students when composing their written products and therefore the validity and reliability of the test to investigate their ability to write is questioned and the findings should be approached with caution (Caudery, 1990).

1.7 Definitions of Terms and Acronyms

In order to provide a specific context for this study's discussion, several terms need to be defined.

- *Arab world*: the 22 member states of the Arab League, united by Arabic language, history and culture or geographic contiguity.
- *Discourse community*: “a group of people who share certain language-using practices” (Swales, 1990, p.29) associated with intellectual paradigms or scholarly cliques who share a set of social conventions that are directed towards some desired purpose.
- *English for Academic Purpose (EAP)*: a branch of ESP designed to meet learners' specific needs, related to particulate disciplines and activities and centred on language appropriate to those specific needs (Stevens, 1988; Jordan, 1989).
- *English as a Second Language (ESL)*: English spoken or taught in addition to the student's first (mother) language (Cameron, 2001).
- *English as Foreign language (EFL)*: English taught to non-natives living in non-English-speaking countries as part of the normal school curriculum (Snow, 2001).
- *L1*: Mother or native language
- *L2*: Second or foreign language.
- *Process approach*: An approach that “emphasizes teaching writing not as product but as process; helping students discover their own voice; allowing students to choose their own topic; providing teacher and peer feedback; encouraging revision and using student writing as the primary text of the course” (Silva & Matsuda, 2001, p.67)

- *Writing process*: a sequence of recursive processes and strategies that skilled writers go through at any point of composing involving planning, drafting, revising, editing, and publishing (Flower & Hayes, 1981).
- *Traditional writing approaches*: Approaches that reduce writing to a matter of using grammatically perfect sentences and paragraphs and correct mechanical skills of writing through repeated drills and exercises in which students have to copy and memorize the grammatical forms and patterns that they will later be expected to produce (Johns, 1997; Silva & Matsuda, 2001).
- *Socio-scientific issues (SSIs)*: social issues with conceptual or technological ties to science (Sadler, 2004).
- *Informal reasoning*: the process of considering a claim where the individual weighs and synthesises the pro and cons to arrive at a thoughtful judgment in relation to a controversial (Means & Voss, 1996).
- *Argumentative writing*: academic written discourse in which a claim is established, reasons and supportive grounds are presented, potential counter-argument is acknowledged, and refutation is considered in pursuit of an ultimate rhetorical communicative goal (Driver, Newton & Osborne, 2000).

1.8 Organisation of the Thesis

This thesis is organised into six chapters. This first chapter has outlined the broad context, introduced background to the research problem, statement of the problem, its objectives and questions. This chapter has provided an

overview of the research methodology and research method design. It has also described the significance and limitations of the study.

Chapter 2 reviews the literature pertinent to the dominant approaches to teaching of academic writing with the goal of establishing a theoretical framework for the study. Chapter 3 addresses the theoretical framework of the MIM, its teaching plan and its significance in the context of the current study.

Chapter 4 gives an account of the research setting and the participants, outlines the methodology and the research design adopted in the study to collect data, and the data analysis methods. Ethical considerations relevant to the research are spelled out.

Chapter 5 presents the findings of the qualitative and quantitative analysis of the EFL students' pre-and post-test essays from both the intervention and non-intervention groups in the first section. The second section focuses on assessing quality arguments and identifying informal reasoning patterns evident in students' pre-and post-test essays in support of their claims. The study findings are presented and discussed in relevance to previous research studies in Chapter 6. The implications of the findings are drawn and areas for future research are suggested.

CHAPTER 2: REVIEW OF THE LITERATURE

2.0 Introduction

This chapter presents the literature on major trends in academic writing research and practice and the theoretical influences that shape these trends. It consists of three main sections.

The first section provides an analysis of the four dominant approaches that are used to teach academic writing in the context of English as a second language (ESL) and English as a foreign language (EFL). Research studies on process and genre approaches in EFL, with an emphasis on those adopted in the Arab world, are discussed. The use of an integrated process-genre approach in ESL settings. Theoretical and pedagogical gaps in the literature are identified.

The second section introduces the use of a socio-scientific issue (SSI) as a teaching resource: its role in assisting the formulation of arguments and applying informal reasoning in support of a position taken to resolve it., the relationship between topic content knowledge and quality of reasoning, and the relationship between this knowledge and argumentation genre are considered.

Informed by a socio-cultural theory of learning and development, the third section discusses the relevance of Vygotsky's (1978) theory to this study.

2.1 Nature and Purposes of Academic Writing

Academic writing is the genre that has a unique currency in higher academic literacy and scholarship. It is one of the major means by which students

demonstrate their academic knowledge and make their thoughts and ideas visible to a particular reader or a group of readers. Academic writing is a type of writing that, to a greater or lesser degree, underlies various academic tasks and assignments across all disciplines and, thus, writing ability has become a predictor and determinant of a student's academic success (Ferris & Hedge, 2005; Graham, 2006) because writing is commonly used to assess not only students' language skills but also the extent of their learning progress in many academic content areas (Grabe & Kaplan, 1996).

Chandrasegaran (1991) asserts the importance of being able to write coherent, well organised expository essays at tertiary level and contends that students who lack "effective written communication skills" are disadvantaged as they will be unable "to produce clear and convincing arguments to demonstrate their understanding of their subject" (p. vi).

In Western education there is consensus that what characterises much of academic writing is its argumentative nature (Lillis & Turner, 2001; Whitaker, 2009; Richards & Schmidt, 2010). In a broad sense, the argumentation applicable to education purposes takes a dialectic form (Walton 1992). It is defined as a goal-directed and interactive dialogue aimed at convincing a reasonable critic of the acceptability of a standpoint by putting forward a number of thoughtful arguments (Eemeren & Grootendorst, 2004). Argumentation is established as one of the most desirable characteristics underlying enquiry and research practices in Western tertiary contexts (Woodward-Kron, 2002). Academic writing is concerned with argument, summary, synthesis, evaluation, reflection and analysis (Lillis & Turner, 2001). The purposes of argumentation are various:

to argue controversial topics, to earn readers' considerations or approval for a position taken, to ask them to take an action, or to change an opinion or to justify a way of interpreting certain facts. To achieve the intended goal, the writer defends a position on an issue through substantiating the validity of its merits and refuting counter premises (Díaz, 2002, cited in Chala & Chapetón, 2012).

Academic writing cannot, therefore, be reduced to a mere tool for the transmission and summarisation of content knowledge that students have memorised and reproduced in their educational settings. Its composing is a complex and multifaceted problem-solving process (Hyland, 2002), different from other modes of discourse - a tool to teach students how to understand and evaluate specific domain knowledge. It is complex in the sense that it requires students to draw on a set of thinking skills which include putting forward a particular point of view on a particular issue, weighing evidence, interpreting texts, evaluating claims, and examining alternative views to refute or support a particular claim in pursuit of an ultimate rhetorical communicative goal (Driver, Newton & Osborne, 2000).

On this basis, argument quality significantly influences the grades that academic assignments receive (Shih, 1986; Clark, 1998).

Going beyond simple cognitive activities such as the recall of ideas and facts, academic writing crucially entails the engagement of higher order thinking skills and the enquiry habits of analysis, synthesis, and evaluation (Lang, 2000) and, thereby, "critical analysis is firmly established as one of the most desirable qualities of undergraduate writing" (Woodward-Kron, 2002, p.121)

In ESL and EFL contexts, many approaches to the teaching of academic writing have been proposed. Each approach has, however, been the subject of criticism (Matsuda, 2005). Four approaches have been the most influential: the product, process, genre-based and process-genre integrated approach, all of which manifest the pedagogical principles and theoretical underpinnings of L1 writing research (Silva, 1993; Fujieda, 2006). They are distinctive in that they are marked by competing paradigms leading to different pedagogical practices. Yet they are also interdependent and overlap, and their insights have made a significant contribution to L2 writing research and methodology (Silva, 1990). Analysis of their benefits suggests the possibility of a more coherent and comprehensive approach to teaching writing (Matsuda, 2003, p.33).

2.2 Product Approaches

Controlled composition model

Fries' (1945) audio-lingual method dominated L2 language teaching in the 50s and early 60s. This method incorporated many of the influential notions of behaviourist psychology and structural linguistics, such as language as speech (structural linguistics) and learning as habit formation (behaviourist psychology) (Silva, 1990). These tenets underpinned the controlled composition model (CCM) of teaching that emerged in ESL writing classes (Leki, 1992; Matsuda, 2003).

CCM focuses primarily on the linguistic accuracy of sentences and on employing a variety of rigidly controlled teaching methodologies to reinforce appropriate L2 behaviour. Writing was taught by using a variety of oral drills and repetitions and through the reinforcement for systematic oral

habit formation (Silva, 1990; Matsuda, 2003). Students were trained to practise a collection of sentence patterns and vocabulary items and later imitated and reproduced them in their writing as a means to reinforce its development (Johns, 1997; Leki, 1992).

Using CCM, writing was seen as a process which students acquired in a behavioural manner. Its development was measured by assessing students' ability to memorise and manipulate fixed language structures, learned through imitation, and their accurate application was tested in a rigidly mechanical fashion (Silva & Matsuda, 2002). There was little concern for the quality of ideas, the audience, or the communicative purpose. The teacher was both the audience and the editor (Silva, 1990; Leki, 1992). The effectiveness of the CCM was questioned by Hyland (2003, (p. 5):

“Syntactic complexity and grammatical accuracy...are not the only features of writing improvement and may not even be the best measures of good writing”.

Current-traditional rhetoric model

The mid-1960s witnessed the call for ESL students to write purposeful texts rather than focusing on building grammatically accurate sentences (Silva, 1990). The transition from controlled writing to writing larger chunks of text was manifest in the Current-Traditional Rhetoric Model (CTRM) (Silva, 1990). Unlike the CCM, the central concern of CTRM was the manipulation of discourse beyond the sentence level (Paltridge, 2004) and “accuracy became secondary to communication” (Reid, 2001, p. 28). It owed much to Kaplan's (1966) theory of contrastive rhetoric in which rhetoric is defined as “the method of organizing sentences into larger

discursive patterns” (Kaplan, 1967, p.15). CTRM addressed the importance of the rhetorical features of the target language in L2 writing, so that the expectations of native readers could be met. The logical construction and arrangement of discourse forms were the foci of CTRM and students were expected to generate connected discourse based on prescribed formulae (Ferris & Hedgcock, 2005).

The structure of the paragraph was of primary interest in the earlier stages of CTRM and essay development grew from expanding paragraphs to produce larger chunks of discourse. Larger structural entities (introduction, body, and conclusion) were addressed in which the central focus was placed not only on the paragraph elements (topic sentences, support sentences, concluding sentences, and transitions), but also on their various rhetorical functions (illustration, exemplification, comparison, contrast, partition, classification, definition, causal analysis) (Silva, 1990).

Classroom writing activities informed by CTRM focused on formal arrangements (Silva, 1990). In a typical CTRM class, learning to write involved four linear stages (Pincas, 1962, cited in Brown, 2001): familiarisation, controlled writing, guided writing, and free writing. Familiarisation exposed learners to exemplar genres highlighting their syntax, vocabulary, paragraphs, and other structural features. During the controlled and guided writing stages, learners were expected to focus on specific textual features and gradually gain control of them. Finally, in the free writing stage learners would write a text that mimicked the exemplar.

However, in spite of this transition from paragraph to essay as the final composed product, compliance with linguistic accuracy continued to be prioritised. Teachers primarily measured the finished written product against criteria of “vocabulary use, grammatical use, and mechanical considerations, such as spelling and punctuation,” as well as content organization and layout (Pincas, 1962, cited in Brown, 2001). This was observed by Ferris and Hedgcock (1998, p. 7) who claimed that writing was seen as grammar instruction to “give students practice with particular syntactic patterns and/or lexical forms to generate connected discourse by combining and arranging sentences into paragraphs based on prescribed formulae”. Classroom exercises and drills showed a strong concern with substituting, transforming, expanding, and completing model passages as well as organising content into a prescribed form that mimicked the exemplar (Silva, 1990; Connor, 1996). Perceived this way, academic writing was described as a matter of “reordering sentences in scrambled paragraphs, selecting appropriate sentences to complete gapped paragraphs and writing from provided information” (Hyland, 2003, p.6).

Nevertheless, both CCM and CTRM as models for teaching academic writing were subject to a number of criticisms. This led researchers to reassess the ways that writing was taught, particularly practices that involved the memorisation of spelling lists, the use of filling in exercises and the rote learning of grammatical rules (Silva & Matsuda, 2002). Silva (1990) observed that, due to the focus on linearity and prescriptivism, neither model adequately fostered writers’ originality or creativity and limited their ability to express ideas. Moreover, Bizzell (1986) and Johns

(1997) claimed that writers adopting product approaches such as CCM and CTRM were conceived as passive recipients of expert instruction. Their own purposes, motivations and voices were not considered, marginalising them instead of placing them at the centre of the writing process.

However, proponents of product approaches argued that they had the benefit of enhancing students' writing competence. Badger and White (2000) stated that writing involves the linguistic knowledge that students can learn partly through imitation. Arndt (1987) emphasised the importance of gradual exposure to, and engagement with, a model text not only for imitation but also for the exploration and analysis of its rhetorical stages and moves. A model text offers students the opportunity to develop genre knowledge and gain an understanding of why the text is structured and organised in the way that it is, and to assess how it performs a particular communicative purpose in a specific social context (Hyland, 2007). In addition, the opportunities to learn rhetorical modes enabled L2 learners to eventually apply this knowledge in planning and drafting similar writing tasks, thus allowing them to move towards increasing independence (Hyland, 2007). The key grammar and vocabulary choices associated with each text helped develop genre awareness. In support of authentic models of writing, Myles (2002) claimed that, if L2 students are not exposed to these texts, their errors in writing are more likely to persist.

2.3 Process Approaches

Process approaches emerged in response to the emphasis on grammatical accuracy and the manipulation of prescriptive model texts that characterised the product approach. Process approaches first appeared in the late 1960s

and early 1970s as a result of extensive research in the teaching of English as the first language (L1) (Matsuda, 2003). The process movement marked a substantial pedagogical shift of focus from orthographic features and linguistic accuracy to understanding the complex cognitive processes involved in writing (Hinkel, 2002). This involved a move away from linearity and prescriptivism to an emphasis on writing as a process. The process approach “focuses on writing processes; teaches strategies for invention and discovery; considers audience, purpose, and context of writing; and emphasises recursiveness in the writing process” (Connor, 1987, p. 677). It was claimed that it also helps students “discover their own voice; allowing students to choose their own topic; providing teacher and peer feedback; encouraging revision and using student writing as the primary text of the course” (Silva & Matsuda, 2001, p.67).

Advocates of the process approach stressed the need to develop the individual student’s creativity by requiring them to plan, reconceptualise and restructure in order to present their own understandings and purposes (Tribble, 1996). According to Kroll (2001), students were not expected to produce and submit complete and polished responses to their writing assignments in one attempt. Academic writing tasks were best achieved through “a cyclical approach rather than a single-shot approach...[involving] stages of drafting and receiving feedback on their drafts, be it from peers and/or from the teacher, followed by revision of their evolving texts” (p. 221). Academic writing became a developmental process of enquiry, discovery, and problem solving rather than a single action resulting in a finished product (Crowley, 1998).

Translated into the writing classroom, the process approach provided “a positive, encouraging, and collaborative workshop environment within which students, with ample time and minimal interference, can work through their composing processes” (Silva, 1990, p.15). Within such settings, students became the centre of attention: they were the independent creators of texts and the teacher’s role was to assist them to develop strategies for generating, structuring, drafting, and refining and editing with minimal interference (Silva, 1990; Hyland, 2003). Learning to write became a reciprocal experience involving a two-way interactive dialogue in that a monologic transmission was replaced with a collaborative transformative model (Breuch, 2002). Process-oriented classrooms become active and exploratory learning environments. They increase learners’ motivation and develop positive attitudes towards writing activities where individual creativity, pre-writing tasks, multiple drafts, peer collaboration, feedback sessions, abundant revision and a focus on content over grammar become significant components of writing instruction (Ferris & Hedgcock, 2005).

2.3.1 Compositional perspectives

Two distinct process-oriented compositional perspectives to study the composing processes of native English speakers have been reported in the literature: expressionism and cognitivism (Faigley, 1986; Elbow, 1973). They inform the cognitive view of the process writing movement (Hyland, 2004). One focuses on the writer’s role as a self-discovery of meaning (expressionism), the other focuses on the cognitive operations involved in the process of writing (cognitivism) before attaining the final product (Faigley, 1986; Silva & Matsuda, 2002).

Focus on the writer (expressionism)

The primary emphasis of writing instruction, according to Zamel (1976), is releasing the creative and expressive potential of individuals through the process of exploring and meaning-making in writing. Central to the expressionist perspective are the concepts of ‘authentic voice’ and ‘ownership’ (Murray, 1985). Writers compose their texts as a way of discovering and exploring what they mean to say and finding ways of saying it. The teacher’s role is to provide learners with a favourable environment in which to encourage free expression of views (Murray, 1985) and to experience self-discovery (Elbow, 1981). Emphasis was placed on fluency, rather than accuracy, as the principal tool for achieving proficiency (Ferris & Hedgcock, 2005). Classroom activities were designed to encourage self-discovery, such as journal writing and personal essays, where students can “first write freely and uncritically” and “get down as many words as possible” (Elbow, 1981, p.7). Overall, the prime concern was to foster students’ expressive abilities by encouraging them to produce fresh and spontaneous writing (Hyland, 2003).

Nonetheless, the expressionist perspective came under criticism for its implied assumption that all writers have a similar potential for writing if allowed free rein. It failed to consider confounding issues, especially in ESL/EFL contexts, such as how different types of text are created and shaped in terms of their ultimate communicative purpose and the intended audience (Hyland, 2004).

Focus on process (cognitivism)

The cognitivist perspective views writing as a high-order problem-identifying and problem-solving process that goes on in the individual writer's mind while generating written assignments. It stresses that even the most routine writing evokes conscious intellectual effort and involves the employment of cognitive problem-solving skills through which not only are ideas generated, planned, monitored and evaluated, but which initiate an ongoing search for appropriate language resources to express these ideas precisely (White & Arndt, 1991).

The cognitivist view has its roots in the seminal work by Emig (1971) who used a think-aloud methodology as a data collection instrument to investigate the variety of behaviours that writers employ during composing process. According to Kroll (1990, p.38), Emig's data demonstrated "the nonlinear nature of writing and that the writing process was a complex and recursive enterprise worthy of study in its own right".

An assumption underlying the cognitivist approach is that writing "is recursive, a cyclical process during which writers move back and forth on a continuum discovering, analysing and synthesising ideas" (Raimes, 1983, p.229) in order to "reformulate their ideas as they attempt to approximate meaning" (Zamel, 1983, p.165). This recursive process often results in changes to the plan of what ideas to include and the communicative goals of the writing (Raimes, 1985). Two seminal models have emerged from the cognitivist perspective: the Flower and Hayes (1981) model and the Bereiter and Scardamalia (1987) model.

2.3.1.1 *Flower and Hayes' model*

Flower and Hayes (1981) contended that writing is a dynamic process of meaning construction: “the process of writing is best understood as a set of distinctive thinking processes which writers orchestrate or organise during the act of composing” (Flower & Hayes, 1981, p. 366). Using a think-aloud protocol, Flower and Hayes conducted a series of studies involving skilled and unskilled writers who were native speakers of English, the result of which was a conceptual model of writing that identified how mental processes evolved throughout the act of writing and how these were organised to produce a text. They claimed that, with the use of this data collection technique, their research (1981) captured a

...detailed record of what is going on in the writer's mind during the act of composing in controlled settings. It [the think aloud protocol] is extraordinarily rich in data and, together with the writer's notes and manuscript; it gives us a very detailed picture of the writer's composing process from which the theory of process writing has emerge (p.386).

The model assumed that writing is a complex, goal-oriented, decision-making and problem-solving thinking activity. Using cognitive process theory, Flower and Hayes (1981, p.366) explained that the cognitive process in writing is based on four principles: writing is a set of distinctive thinking processes which writers orchestrate or organise; processes have a hierarchical, highly embedded organisation; composing is a goal-directed thinking process; and, writers generate both high-level goals and supporting sub-goals which embody the writer's developing sense of purpose.

Further to this, Flowers and Hayes (1981) claimed that the act of writing involves three major elements that interact with and influence each other constantly as one composes (Figure 2.1):

- the text environment: the rhetorical problem, knowledge of the intended audience and the growing text, which exerts a continual influence as the work develops narrowing the writer's options for what follows;
- the writer's long-term memory: existing knowledge about the topic, the audience, prior writing plans and grammatical forms which continually interact with the task environment and the writing process to achieve the rhetorical goal; and
- the writing process: planning, translating and reviewing and their sub-processes.

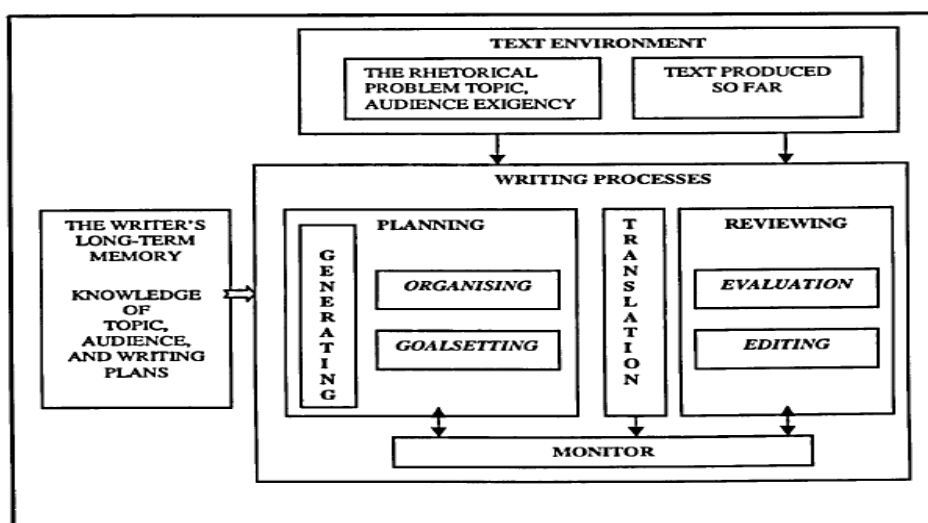


Figure 2.1 Flower and Hayes' model of composition

(Flower and Hayes (1981, p.370))

The Flower and Hayes' model made a substantial contribution to writing theory and practice. Yet, it has been criticised for several reasons, the most significant of which relates to their use of think-aloud techniques. It was argued that this technique “can reveal certain important things about what writers do, but it cannot be the primary source of evidence for a theory of

the writing process" (Grabe & Kaplan, 1996, pp. 92). Of the other limitations, perhaps the most compelling is that the model is deductive and hypothetical because it is based on a small amount of empirical evidence from competent L1 writers which cannot be generalised (Zimmerman, 2000). Further criticisms claimed that the Flower and Hayes model does not recognise cross-cultural differences nor issues relating to sociocultural variation in the functions of the written language (Kern, 2000); does not consider the writer's creativity which is not limited to information retrieved from long-term memory (Kintsch, 1988); and it overlooks the differences in the writing processes and strategies that proficient and less proficient writers employ (Bereiter & Scardamalia, 1987).

2.3.1.2 *Bereiter and Scardamalia's models*

While Flower and Hayes (1981) proposed a common writing process model for all writers, Bereiter and Scardamalia (1987) formulated two explanatory models that focused on the writing strategies typically employed by both proficient and less proficient L1 writers – the 'knowledge transforming model' (proficient) and the 'knowledge-telling model' (less proficient).

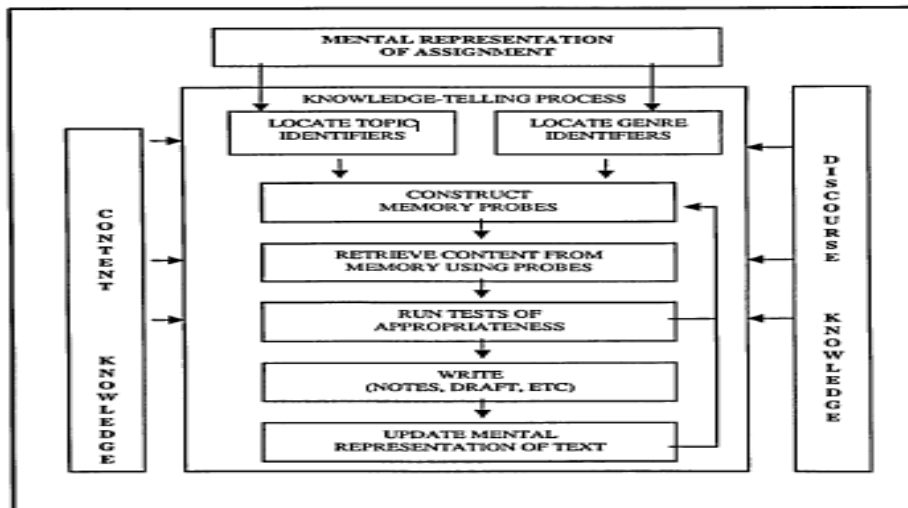


Figure 2.2: Bereiter & Scardamalia's knowledge-telling model

(Bereiter & Scardamalia, 1987, p.18).

The knowledge-telling model (Figure 2.2) was described as a “natural” and “think-say” method of composing, “common to everyone” (Bereiter & Scardamalia, 1987, p. 5). To generate a text, writers retrieve the relevant ideas and thoughts from long-term memory and translate them directly into a written text (Bereiter & Scardamalia, 1987). Writers use discourse cues - genre identifiers - to manipulate relevant linguistic knowledge, such as syntactic and lexical aspects, to convert their ideas into writing (Xinghua, 2010). With knowledge-telling, planning consists of listing the content as it comes to mind and revision is restricted to cosmetic changes. The major disadvantage of using the knowledge-telling model is that it does not accommodate the more complex cognitive processing of information ordering, of audience expectation, and the logical progression of argument (Grabe & Kaplan, 1996).

The knowledge-transforming model (Figure 2.3) represents the reflective problem-solving nature of expert writing.

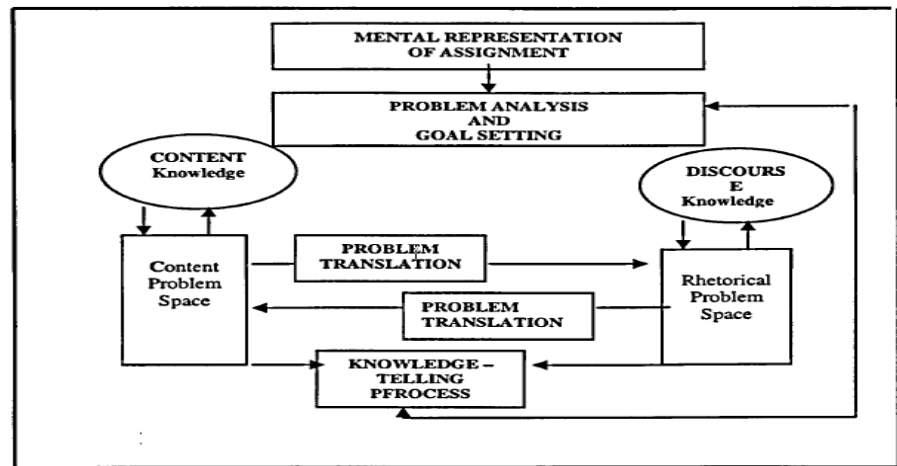


Figure 2.3: Bereiter & Scardamalia's knowledge-transforming model
(Bereiter & Scardamalia, 1987, p.12).

Writing is cognitively complex and critical. It involves a problem-solving process that functions consciously in two domains; the content space where problems concerning content generation and content integration are processed and the rhetorical problem space where audience expectations, genre form, linguistic style, and organisation logic are addressed. The writing task leads directly to goal-setting and problem analysis which lead to plans for the resolution of the problem. Proficient writers establish a dynamic relationship between 'the content problem space' and 'the rhetorical problem space' to achieve their goals. In the 'knowledge-telling model', information is generated from the topic, the assignment, the genre, and the lexical terms and items of the assignment. The resolution of one problem may create another; solving content problems may result in new rhetorical problems and vice versa. As writing is generated, it feeds back to further content analysis and goal setting, potentially generating further problems to be solved. In the knowledge-transforming model, planning is more elaborate and mediated by the writer's goals; revision is more

extensive and involves changes in content and structure as well as to the surface features of text.

Although Bereiter and Scardamalia's (1987) models have the advantage of explicating the differences between experienced and less experienced writers, they have been challenged. Bereiter and Scardamalia claimed that students move from "knowledge-telling" to the more complex process of "knowledge-transforming" (Tardy, 2006). However, it is not explicit how or when this cognitive transition occurs, nor at what stage of knowledge-transforming does a writer become 'expert'. A further criticism is the failure of the models to accommodate individual or contextual factors (Grabe & Kaplan, 1996).

2.3.2 Criticisms of the process approach

Critiques of the process approach mostly stem from the proponents of English for academic purposes (Silva, 1990). Advocates of academic writing assert that process approaches "have a somewhat monolithic view of writing. The process of writing is seen as the same regardless of what is being written and who is writing" (Badger & White, 2000, p.154) and, thus, the same set of formulaic "one-size-fits-all" processes are used to produce most, if not all, writing tasks and assignments. Indeed, Bizzell (1982) expressed concern about the adequacy of the approach to train students for academic writing claiming that it failed to place sufficient emphasis on the structural and linguistic conventions of academic texts and to the variety of academic texts at tertiary level. Horowitz (1986) issued a similar caution, stating that process-based instruction "bears little resemblance to the situations in which [students' writing] will eventually be exercised" (p. 144)

and “gives students a false impression of how university writing will be evaluated” (p. 143).

Further criticism was based on the contention that it operates in a “cultural vacuum” (Silva, 1990, p.14) and fails to adequately address the external forces acting on academic writing such as the social context, the purposes of a text and the awareness of the audience that ultimately shape a text (Henry & Roseberry, 2001; Hyland, 2003; Matsuda, Canagarajah, Harklau, Hyland & Warschauer, 2003). Though a few contextual factors (participants, setting, task, text, and topic) are defined, writing strategies “are still studied as exclusively internal cognitive processing within the confines of the brain, which interacts with the outside context in a bidirectional stimulus-response scheme” (Lei, 2008, p.218). This dichotomous scheme has also been challenged since it conceives human cognitive activities and their social context as separate entities and postulates the immediacy of cognition in response to context (Leont’ev, 1981, cited in Lei, 2008).

Understanding the writing process to lie within a cognitive framework, several researchers (Flower, 1994; Larios & Murphy, 2001; Lei, 2008) believed that one possible way to overcome the pitfalls of its traditional theoretical foundations and to sustain its influence on academic writing theory and practice was to look at the framework more broadly. Flower (1994) suggested going beyond an exclusive focus on invisible internal processes operating inside the individual writer’s mind as the organising principle of writing, advocating the harmonisation, complementarity and integration of these processes and their surrounding social and cultural context (cited in Roca de Larios, Martin & Murphy, 2001). It was asserted

that “in order to understand the inner mental processes of human beings, we must look at human beings in their sociocultural context” (Van der Veer, 2007, p. 21).

This perspective has initiated a view that the process approach to writing should involve a dynamic engagement with the social and cultural environment. This orientation was described as the ‘post-process approach’ (Atkinson, 2003). Cultural psychology holds that cognition and context are dialectically interwoven and interact so closely that their boundaries are blurred (Prior & Shipka, 2003; Prior, 2006; Lei, 2008). Kostouli (2005, p.18) maintained that “Cognition is socially situated”, a view clearly derived from Vygotsky’s (1978) work which asserted the inseparability of language, cognition, and context. Therefore, the mental strategies for decision-making with respect to content, organisation and language resources are socially situated, unable to be detached from “the genres and the communities within which these strategies operate and which they help construct” (Kostouli, 2005, p.18).

Perceived as such, writing becomes “purposeful, socially situated responses to particular contexts and communities” (Hyland, 2003, p. 17) and, in this way, students gain access to the intellectual traditions of an English-speaking discourse community (Hyland, 2002, 2003). Macken-Horarik (2002) and Muncie (2002) claim that a fundamental feature of the genre approach is that it offers a way of seeing how texts are codified in distinct and recognisable ways in terms of their purpose, audience, and message. Without this entrée, students are likely to be “(t)hrown back on their own resources...forced to draw on the discourse conventions of their own

cultures and may fail to produce texts that are either contextually adequate or educationally devalued” (Hyland, 2003, p. 20).

Going beyond the process approaches to embrace the sociocultural perspective of language use is not an abandonment of their theoretical concepts and pedagogical principles. The resultant genre approach is an attempt to complement the process approach with more eclecticism and balance (Hasan & Akhand, 2010).

2.4 Genre Approaches

The introduction of genre approaches marked a major shift in writing theory and practice in both L1 and L2 (Tardy, 2006), although a workable definition of the concept of genre has remained problematic in the field of applied linguistics. Definitions vary greatly across a wide variety of linguistic studies - folklore studies, linguistic anthropology, the ethnography of communication, conversational analysis, rhetoric, literacy theory, the sociology of language, and applied linguistics (Paltridge, 1997).

Genre analysis has been influential in academic writing and has given rise to schools of thought marked by differences at both the theoretical level - how genre should be described - and at the practical level - the application of genre theory to classroom work (Hyon, 1996). The tension among genre theorists and practitioners is based on differences in the role of the text and subsequent organisation (Hyland, 2002). The construct of genre in applied linguistics has been strongly influenced by studies in three major schools: Systemic-Functional Linguistics (SFL), English for Specific Purpose/English for Academic Purpose (ESP/EAP), and the New Rhetoric (Hyon, 1996)

Systemic Functional linguistics (SFL) approach

The Australian school draws heavily on Halliday's (1978) theory known as Systemic Functional Linguistics (SFL). SFL views language as a resource for meaning rather than as a set of grammatical rules. It is "a theory of meaning as choice, by which a language or any other semiotic system, is interpreted as networks of interlocking options determined by language users' choices and the meaning they want to convey" (Halliday, 1994, p. xiv). In SFL, language is necessarily social in nature because it functions as a system of human communication (Thompson, 2004). The theory accounts for language as a social semiotic, powerfully involved in the construction of social experience. SFL theory brings meaning and form together and identifies different kinds of meaning of language use and how the choice of its lexico-grammatical resources are influenced and organised to express and convey these meanings in the social as well as the cultural contexts where language operates and is employed (Christie, 2008). Likewise, Kress (1985) maintained the principled relationship between the shapes of texts and the particular context in which they occur to carry out specific purposes. Halliday and Hasan (1985) suggested *that*, to successfully interpret the meaning of a particular text as a manifestation of a particular action in a particular culture, it was necessary to understand the environment in which it operates. To capture this dynamic, Halliday (1985) proposes that any instance of language must be understood both in the broader context of culture and in the immediate context of situation.

The Context of Culture: The Theory of Register

The context of culture refers to the socially constructed schematic forms made available for language users to share and apply to attain common social functions in a particular culture community (Halliday, 1985).

Halliday developed the construct of genre to capture this link. Martin (2009, p.13) defined genre as:

...staged, a goal-oriented, purposeful social processes. It is staged because it usually takes us more than one phase of meaning to work through genre; it is goal-directed because unfolding phases are designed to accomplish something and we feel a sense of frustration or incompleteness if we are stopped; and it is social because we undertake genres interactively with others.

Additionally, Martin (1985, p. 250) argues that “genres are how things get done, when language is used to accomplish them”. Genre in SFL emphasises the purposeful and sequential character of different genres and the systematic links between language and context (Martin, 1992). Genre coordinates language resources and specifies just how a given culture organises the meaning potential into recurrent configurations of meaning and phases meaning through stages. “The basic idea here is that we cannot achieve our social purposes all at once, but have to move in steps, assembling meaning as we go, so that by the end of a text or spoken interaction we have ended up more or less where we wanted to be” (Martin, 2009, p.12).

Under this conceptualisation, a text unfolds through a predictable sequence of stages that are deployed to achieve certain communicative purposes (Hasan, 1985). Hasan's Generic Structure Potential (GSP) model is a genre analysis scheme used to describe the series of obligatory textual stages and the optional moves that are genre-specific, and which, consequently, categorise a text's membership into a particular genre in a particular context. GSP provides criteria to identify the text's completeness and appropriateness for its communicative purpose. In Martin's (1985) view, the schematic structure in genres brings together the constitutive segments of the complete meanings that must be produced so that genres can be successfully realised and social purposes can be achieved.

The Context of Situation: The Notion of Register

The context of situation is the direct environment within which a text is located. It is necessary to understand how the choices of the components in the semantic and lexico-grammatical system of language both influence and are influenced by contextual parameters. It is interpreted by means of a conceptual framework using three situational variables: field, tenor and mode (Halliday & Hasan 1985, p.12). They respectively describe what takes place – the field” of text represents the system of activity within a particular setting, including the participants, practices, and circumstances; how participants relate to one another - “tenor” represents the social relations between the participants—their interactions—within the discourse; and, what role language is playing - “mode” represents the channel of communication used by the participants to perform their actions and relations. The combination of these variables may vary from one type of

communicative event to another and are all consequential to the choices made in the linguistic system. This is because, as Halliday, MacIntosh, and Stevens (1964, p.87) claim “Language varies as its function varies; it differs in different situation”.

To govern this text variation and understand how the social environment determines linguistic choices, Halliday (1978) developed the construct of register as a plane of realisation of language meanings. According to him (p.28), it is

...the set of meanings, the configuration of semantic patterns that are typically drawn upon under the specified conditions, along with the words and structures that are used in the realisation of these meanings. Register is determined by what is taking place, who is taking part in it and what part the language is playing.

Language fulfils three social meta-functions which are interpreted as “functional components of the semantic system” being “modes of meaning that are present in every use of language in every social context” (Halliday, 1978, p.112): the ideational, the interpersonal, and the textual. These meta-functions operate simultaneously in every utterance contributing to the meaning of a text, spoken or written. Martin (2009, pp.11-12) maintains that this tripartite meta-functional perspective resonates with the situational parameters and makes it possible to interpret meanings in relation to them: field matches the ideational metafunction reflecting a resource for building field knowledge, and naturalising reality; tenor coincides with the interpersonal as a resource for negotiating social relations and enacting

tenor; and mode coincides with the textual meta-function for deploying the ideational and interpersonal meta-functions as texts in different contexts.

Martin (1985) and Martin & Rothery (1980) proposed that register and genre function on two different levels or planes of experience: the register level shapes the language choices in a text with respect to the contextual configuration of the immediate ‘context of situation’ and the genre level shapes the culture-specific schematic structure made available for language users to get social functions done in a specific rhetorical situation. These structures are realised through choices in these same components of register (field, tenor, and mode). Christie (2007) claims that Martin’s model has also enabled the classification of text types and has helped categorise them as belonging to a particular genre through identifying similarities and differences between text structures.

English for Specific Purposes (ESP)

The ESP school of genre dates back to the 1980s, shaped by Swales’ (1981, 1990) research concerning the structure and linguistic features of the genre of introduction to scientific research articles. This research established the tradition of studies in different genres such as literature reviews, business letters, science reports, legislative documents, and so on (Swales 1990; Bhatia 1993; Dudley-Evans, 2001; Johns, 2003). The two terms “English for Academic Purposes approach” (Silva, 1990) and “English for Specific Purposes” (Dudley-Evans, 1997) are often used interchangeably.

Swales (1990, p. 5) asserted that genre is a social and cultural practice that is concerned with a broadly agreed set of common communicative needs

that the expert members of a particular academic/professional discourse community encounter and need to respond to in recurrent rhetorical situations - “so genres are seen as the purposive actions routinely used by community members to achieve a particular purpose (Hyland, 2007, p.154). A principal parameter of genre in the EAP tradition is that when these purposes are linguistically realised, genres tend to exhibit relatively similar internal regularities in schematic structures and content and, by extension, in the choices of lexico-grammatical resources used to realise them (Hyland,2002). This has the implication that communicative purposes are viewed as the most reliable and primary determinant of genre membership that turns a collection of communicative events into a particular genre and distinguish it from other genres (Johns, 1997; Hyland, 2002). Genre can therefore be defined as a “term for grouping texts together, representing how writers typically use language to respond to recurring situations” (Hyland, 2008, p.543).

Swales (1990, p.46) acknowledges that the categorisation of communicative purposes into genre membership is not always straightforward and has its own attendant difficulties because they “are more evasive, multiple layered and complex than originally envisaged’ (Askehave &Swales, 2001, p. 197). To address this limitation, Swales introduced the role of a discourse community “a group of people who share certain language-using practices” (p.29) as another way to identify if a communicative event belongs to a particular genre. Johns (1997) noted that “Those who can successfully produce and process texts within certain genres are members of communities, for academic learning does not take place independent of

these communities” (p.14). Kamberelis, (1995, cited in Ramanathan & Kaplan, 2000, p.176) asserted that “Meaningful and structurally stable texts emerge largely from communities that are held together by shared goals and values”. In this sense, genres belong to discourse communities, not to individuals” (Swales, 1990, p.9).

To demonstrate the realisational interdependence of genre membership and discourse community, Swales (1990) provided evidence that expert writers from an academic discourse community display dominant and distinctive rhetorical moves that occur in particularly predictable order to achieve their communicative goals. According to him, these “stages” or “elements” are called moves, a “bounded communicative act that is designed to achieve one main communicative objective” (p. 35), the “part of a text whose purpose is to fulfil the overall purpose of a genre” (p. 43). His revised version of move analysis (1990) is known as the CARS (Creating-A-Research- Space) is intended to fully capture the obligatory rhetorical, goal-oriented movements in research article introductions written in English.

The New Rhetoric

The New Rhetoric School of genre has its basis in rhetorical theories and composition studies (Miller, 1984; Freedman & Medway, 1994; Devitt, 2004; Bazerman, 2004). The focus of this approach is not on formal characteristics of texts in isolation but on the exploration of the socio-contextual aspects of genre and the ways these aspects might change through time (Paltridge, 1997). This tradition considers genre to be a fluid, dynamic, and evolving phenomenon. Miller (1994, p.36) goes further, asserting that “genres change, evolve and decay”. In Freedman and

Medway's (1994) view, generating an example of a genre is not only a matter of generating a text with certain textual conventions, but also of using these evolving conventions to act effectively in a rhetorical situation through text.

Genre-based methodologies in teaching

The application of genre-based methodologies to teaching academic writing has resulted in scholars both within and across the three schools of thought offering different pedagogical foci and perspectives. However, they are "united by a common attempt to describe and explain regularities of purpose, form, and situated social action" (Hyland, 2003, p.22).

The Systemic Functional Linguistics (SFL) and ESP/EAP schools both define genres in terms of social context. Their pedagogies focus on teaching materials that detail distinctive discursive stages and moves and the key recurrent linguistic features of various academic genres (Hyon, 1996; Paltridge, 2001; Hyland, 2007). Common to all is the view that teaching employs three learning cycles: analysis of a representative sample of text to identify their generic and language resources; joint text construction involving the teacher and students; and independent construction of a text by each student (Dudley-Evans, 1997). The teacher can use these cycles flexibly in a way that accounts for students' needs (Callaghan, Knapp, & Noble, 1993).

EAP scholars are more explicit about cyclical move patterns (Hopkins & Dudley-Evans, 1988). Swales (1981, 1990) promotes activities to help non-native speakers of English write better academic texts, such as teaching the

rhetoical moves and the linguistic features of research article introductions.

In business and professional settings, Bhatia (1993) used sales promotion letters, business memos, and job applications as instances of professional texts to which the analysis of moves could be applied to raise students' awareness of the rhetorical strategies of these genres.

The New Rhetoric (NR) School explores the relationship between genre and the rhetorical environment (Bazerman, 1988, 1994; Freedman & Medway, 1994). In direct contrast to the EAP and SFL, NR scholars question the effectiveness of explicit classroom instruction for teaching academic and professional genres. In practice, genre in the NR school "has not tended to address itself to the classroom, generally regarding it as an unauthentic environment lacking the conditions for complex negotiation and multiple audiences" (Hyland, 2002, p.114). A number of researchers (for example, Berkenkotter & Huckin, 1993; Freedman & Meadway, 1994; Dias, 1994) have expressed doubt that classroom instruction on genres can actually help students become better writers and readers of texts unless it is carried out in the context of or in close proximity to authentic tasks "as apprentices become socialized to the ways of speaking [or writing] in particular disciplinary communities" (Berkenkotter & Huckin, 1993, p.482).

However, despite the widespread use of genre approaches in ESL/EFL writing practice, they have not been applied without criticism (Bizzell, 1986; Coe, 1994; Hunt, 1994; Badger & White 2000; Hyland, 2003), particularly emphasising that the pedagogical foci are overtly prescriptive in nature. According to Badger and White (2000), genre approaches have strong similarities with product approaches in that they are about imitation

and the application of rules. Some critics assert that genre approaches are text-centred with a focus on prescriptive formulae that reduce academic writing to a matter of inserting one's thoughts into the "formal shells" (Bizzell, 1986, p. 295) which has the effect of "restricting creativity and freedom of expression" (Coe, 1994, p. 158). They maintain that the conformity and prescriptivism that characterises genre pedagogy undervalues individual creativity (Hyland, 2003, p.8): "genres might be taught as moulds into which content is poured rather than as ways of making meanings". Chandrasegaran (2009, p. 342) maintained that in order for genre-based pedagogy to be effective, it must

"go beyond the mere observance of a template of steps and linguistic structures to socialization of student writers into the practices and mindsets of the people who use a genre to interact with each other in social contexts associated with that genre". Hunt (1994, p. 246) also criticised the mastery of unchangeable generic structures or moulds and their use as "an algorithm to mechanically generate new instances of them".

2.5 Integrated Process-Genre Approach

The process and genre approaches are sometimes presented as opposing each other, given that they are marked by competing theoretical principles and pedagogical preferences (Silva, 1990; Tribble, 1996; Gee, 1997; Matsuda, 2003). A number of scholars however (Cumming, 1998; Matsuda, 1999; Yan, 2005) have argued that an examination of commonalities could lead to the establishment of a more coherent and plausible pedagogy of L2 writing instruction. Badger and White (2000) proposed combining the

process and genre approaches in an attempt to minimise their shortcomings and maximise their merits. Badger and White contended that the process and genre approaches are largely complementary in terms of their integration of the cognitive and social aspects of writing. Hyland (2004, p. 20) supported this point of view claiming that the two approaches “can usefully be seen as supplementing and rounding each other out”. The new approach they advocated became known as the Integrated Process-Genre Model.

This combination of the two approaches (Badger & White, 2000, pp.157) meant that the writing class recognises, that writing involves knowledge about language (as in product and genre approaches), knowledge of the context in which writing happens and especially the purpose for the writing (as in genre approach), and skills in using language (as in process approach) ... [and that writing development happens by] drawing out the learners’ potential (as in process approaches) and by providing model text as input to which the learners respond (as in product and genre approaches

Several studies (Badger & White, 2000; Kim & Kim, 2005; Yan, 2005; Gao, 2007; Voon Foo, 2007; Zhang, 2010; Saito, 2010; Babalola, 2011,2012) have shown how the Integrated Process-Genre Model (IPGM) can be translated into an effective instructional approach to the teaching of academic writing and have acknowledged its beneficial results at university level in both English as L1 and EFL.

Voon Foo’s (2007) study assessed the effectiveness of IPGM in the writing of expository essays, finding that students were able to communicate their

ideas more effectively and develop more relevant ideas to support their writing task, compared to the students who received product-centred instruction. Similarly, Saito (2010) observed that students could produce well-organised and well-developed essays containing the four major components of argumentative writing - claim, data, opposition and refutation - when exposed to an integrated approach, while the students in Badalona's (2012) study also benefited from the student-centred, practical and flexible nature of this approach.

2.6 Previous Studies on ESL/EFL Writing Processes

Research into ESL/EFL writing processes has increasingly become an area of scholarship in L2 research. In general, this research has been conducted using research design in L1 (Sasaki, 2000). Three major themes of inquiry into L2 writing have emerged: the role of L2 proficiency in L2 writing; the role of L1 expertise in L2 writing; and contrasts between the L2 writing strategies employed by skilled and less skilled writers.

Impact of L2 proficiency on L2 writing

Several studies have investigated the role of proficiency in a second or foreign language (L2) on writing quality in the L2. Raimes' (1985, 1987) studies found that L2 learners' general linguistic proficiency was not a significant predictor of good L2 writing performance and that the writing process did not seem to be influenced by it. Zamel (1983) maintained that the determining factor of L2 writing performance was related to students' L2 composing competence and that L2 writing pedagogy should centre on teaching L2 composing strategies.

In direct opposition to these findings, other studies (Hirose & Sasaki, 1994; Sasaki & Hirose, 1996; Victori, 1999; Sasaki, 2000; Grant & Ginther, 2000; Yun, 2005) identified a positive relationship between proficiency and writing quality and writers with the L2 proficiency exhibited greater confidence, sense of purpose, awareness of the audience, and commitment to the writing task. Typical of these studies was that conducted by Sasaki and Hirose (1996, pp.137-138) which revealed firstly, that L2 proficiency and L1 writing ability were all significant independent factors in explaining the quality of writing in the L2; and secondly, that good writers were significantly different from weak writers in that they paid more attention to overall organisation while writing either in the L1 and L2; and, those who wrote more fluently in the L1 exhibited greater confidence in L2 writing for academic purposes.

The role of L1 expertise in L2 writing

Literature on the transfer of L1 knowledge to composing strategies in L2 writing and its influence on such aspects as fluency, accuracy, quality, and structure is often contradictory. Brooks-Carson, Carrel, Silberstein, Kroll and Kuehn's (1990) study found no evidence of the transfer of L1 writing skills and strategies to L2 writing among Chinese students and only a weak positive correlation when the writing processes of Japanese participants were examined. Pennington and So (1993) had similar findings in relation to Singaporean university-level participants.

In contrast, the findings of a growing body of research (Lay, 1982; Jones & Tetroe, 1987; Uzawa & Cumming, 1989; Cumming, 1990; Kobayashi & Rinnert, 1992; Carson, & Kuehn, 1992; Uzawa, 1996; Cohen & Brooks-

Carson, 2001; Wang & Wen, 2002; Wolfersberger, 2003; Sasaki, 2004) suggest that L2 writing ability can be predicted by using participants' L1 composing strategies. Other studies (for example, Jones & Tetroe, 1987; Cumming, 1990) examined whether L1 composing strategies help students generate ideas during the pre-writing stage and found that they have a positive effect on composing text quality in the L2 in terms of content, language, organisation, vocabulary and mechanics. In their study on the effects of L1 literacy on L2 writing ability, Wang and Wen (2002) found evidence of the transfer of L1 writing skills to the processes of thinking and writing in the L2. Their analysis of think-aloud protocols yielded two important findings. First, most of the study's participants (61.5% - 70%) switched to their L1 when they had difficulty in idea-generating and idea-organising activities. Second, the participants tended to use the L1 more frequently in narrative writing and argumentative writing. Thirdly, participants with lower-levels of L2 proficiency relied heavily on their L1 and used it far more than the higher proficiency participants.

Translation when writing is the most widely examined compensating strategy in the literature. Numerous studies (Jones & Tetroe, 1987; Cumming, 1989; Uzawa & Cumming, 1989; Victori, 1999; Grant & Ginther, 2000; Cohen & Brooks-Carson, 2001; Wang & Wen, 2002; Wolfersberger, 2003; Sasaki, 2004; Kobayashi & Rinnert, 2008) have looked into the effect of composing in the L1 and then translating into the L2 to assist students to sustain the writing process.

Typical of these studies is that conducted by Kobayashi and Rinnert (1992). The participants were 48 Japanese university-level students of two

proficiency levels. One group was instructed to write their essay in Japanese (L1) and then translate it into English (L2), while group 2 was to write directly in English. The groups later reversed tasks and wrote a second essay on another topic. The findings suggested that the compositions written in the translation mode demonstrated higher levels of syntactic complexity. The translated compositions showed the benefit of the transfer from the L1 in terms of content, style, and organisation, and had more clearly stated thesis statements. However, while the majority of students (77%) reported preferring direct composition to translation; they felt that, in the translated version, they could develop their ideas more easily and express thoughts and opinions more clearly. Higher-proficiency L2 students used the translation strategy less frequently. Over half (55%) of the higher-proficiency students thought in Japanese while they were writing directly in English, whereas for lower proficiency students the figure was 87%. The researchers concluded that translation was more effective mainly during the brainstorming and idea organisation stages of the writing process for students with low L2 proficiency.

L2 writing strategies and L2 proficiency

Several studies have examined the L2 composing strategies and behaviours utilised by university level students with varying L2 skills when undertaking L2 writing tasks (Arndt, 1978; Zamel, 1982, 1983; Raimes, 1983, 1985, 1987; Jones & Tetroe, 1987; Beare, 2000). Representative of this research is Raimes' (1985) study that revealed that students used a recursive writing process similar to that employed by their L1 counterparts. Furthermore,

Raimes' findings revealed that students less skilled in composing expertise in L1 were also less skilled in L2 writing.

A range of studies have demonstrated that, although there are basic similarities between L1 and L2 recursive and nonlinear writing processes, they are used differently by proficient and less proficient L2 writers (Lay, 1982; Zamel, 1982, 1983; Raimes, 1983, 1985, 1987; Jones & Tetroe, 1987; Silva, 1993; Akyle, 1994; Sasaki, 2000; Yang, 2002; Xiu & Xiao, 2004; Hu & Chen, 2007; Chien, 2008; Sadi & Othman, 2012). Zamel (1983) found that more and less proficient L2 writers differed in their approach to planning – the less proficient did less planning before or during writing, tended to adhere to the original plan, and took frequent pauses when writing. According to Matsuda, (1999), proficient L2 writers, on the other hand, spent more time on planning and changed and revised their original plans freely whenever they came up with new ideas and allocated more time to reviewing their final drafts (Zamel, 1982, 1983). Later studies (Victori, 1995; Porte, 1996) found that proficient writers gave priority to high-level revisions related to the development of meaning, including changes to content and its organisation that better met the communicative purpose and audience expectations. These studies also revealed that low-level editing issues relating to grammar and vocabulary and mechanics (spelling, punctuation and capitalisation) were delayed until the end of the writing process.

2.7 The Arab World Context

With the rise of English as a global language, EFL writing processes and strategies have become increasingly important in Middle Eastern

universities, with a number of studies identifying particularities pertinent to the Arab context.

Process approaches

Elkhatib (1984) conducted one of the earliest, albeit small, studies in this area. Using four Egyptian university students, Elkhatib reported that less proficient students did not carry out any brainstorming or outlining of their text in the planning stage because they were unfamiliar with these techniques. This resulted in long breaks during the writing process and minimal effort to improve writing quality on completion. Alam (1993) investigated the impact of Kuwaiti college-level students' tendency to translate or think in Arabic (L1) while writing in English (L2). The results revealed that the students depended on their expertise in the L1 during the pre-writing (planning), writing, and the revising stages. Alam attributed this to the students' low proficiency in the L2, although he noted that using Arabic helped students sustain the writing process in the L2.

A number of other later studies (Aljamhoor, 1996; Al-Hazmi & Schofield, 2007; Al-Humaidi, 2008; Alhaisoni, 2012) investigated the influence of sub-processes on Arab EFL learners in composing their written texts. For example, in Saudi Arabia, Alhaisoni (2012) examined the planning strategies of university students and the effect of L2 proficiency on the frequency of their use. The findings demonstrated that proficient writers applied most of the planning strategies and tended to plan more globally to consider the targeted reader, than less proficient writers who focused on linguistic accuracy. A significant difference was found in the use of planning strategies between good (high) and poor (low) writers.

Al-Sharah's (1997) research in Jordan examined EFL students' syntactic and lexical choices when writing and the writing product. The major findings confirmed that Arab EFL students are in need of pedagogies which focus on both low-level and global writing strategies such as bottom-up linguistic aspects (words and grammar), and top-down rhetorical aspects (organisation and structure, content, purpose). Further attention to poor writing skills was the focus of Al-Harthi's (2011) study in Saudi Arabia which investigated the composing strategies of both skilled and less skilled students majoring in English in order to uncover the causes of poor writing. The findings indicated that although the students were aware of writing strategies, most had problems in employing them, highlighting the need for more attention to the process of writing. These studies emphasised the interdependency of both process and genre and the efficacy of an integrative, developmental model of writing in both the L1 and L2.

A further major area of interest in Arabic speaking countries is the transfer of L1 strategies and the interdependency of L1 and L2 skills. For example, El-Aswad (2002) examined the L1 and L2 (Arabic and English) writing processes of Libyan university students with limited L2 linguistic knowledge and proficiency to investigate the relationship between writing process skills and product quality. The data revealed that while most of the participants had purpose in mind while writing, very little attention was paid to the audience. Moreover, each participant planned and organised their content quite differently. Revision in Arabic (L1) focused on organisation and content, while in the L2 the focus was on form, grammar, vocabulary and punctuation. Most of students used editing strategies more frequently in

the L2 than in the L1 and used the L1 to facilitate their composition in the L2, thus transferring the L1 composing knowledge and skills into the L2 writing. El-Mortaji (2001) investigated the writing processes and strategies of multilingual Moroccan students majoring in English, focussing specifically on the level of L1 (Arabic) writing expertise and L3 (English) proficiency (The L2 was French). Participants switched into Arabic and L2 while writing in L3 and this varied according to topic, gender, personal choice and proficiency in English. This code-switching did not hinder the process of producing the English text although there were differences in the use of strategies, particularly the frequency of their use by skilled and less-skilled writers.

The interdependency of the L1 and L3 writing processes was evident in the students' frequent use of their expertise in Arabic when revising their L3 writing. Halimah (2001) investigated both English and Arabic writing proficiency in his case study of Kuwaiti university-level students. The findings of his research indicated that the students who were not good writers (in either English or Arabic) did not lack linguistic skills, but had an inadequate grasp of the rhetorical aspects of writing, in particular organisation and content development. These findings mirror studies conducted in non-Arab ESL/EFL contexts (Lay, 1982; Zamel, 1982, 1983; Raimes, 1983, 1985, 1987; Jones & Tetroe, 1987; Silva, 1993; Sasaki, 2000; Yang, 2002; Xiu & Xiao, 2004; Hu & Chen, 2007; Chien, 2008; Sadi & Othman, 2012).

Other scholars also report that although there are basic similarities between L1 and L2 writing strategies and processes, proficient and less proficient

writers differ in their composing behaviours in the L2. Halimah (2001), for example, observed that the lack of awareness of the textual organisation caused the students to switch to using Arabic discourse traditions in their L2 writing. This inevitably led to textual irregularities. This research from the Arab world therefore reflects that reported in non-Arab ESL/EFL contexts (Jones & Tetroe, 1987; Uzawa & Cumming, 1989; Cumming, 1990; Kobayashi & Rinnert, 1992; Victori, 1999; Grant & Ginther, 2000; Cohen & Brooks-Carson, 2001; Wang & Wen, 2002; Wolfersberger, 2003; Sasaki, 2004; Wang, 2007; Kobayashi & Rinnert, 2008) which suggests that students' L1 writing ability has a significant effect on the quality of L2 texts. These studies suggest that the L1 be included in the L2 writing process, since language switching and translation seem to be integral parts of the L2 writing process.

With regard to the impact of L2 proficiency on L2 writing, Al-Sawalha and Chow (2012) investigated the writing processes of Jordanian students with low L2 proficiency. These students failed to express themselves meaningfully since they did not plan, edit or revise their essays and tended to avoid linking and organising ideas, using appropriate vocabulary, constructing logical sentences, or correcting grammar. This study demonstrates the need for improved pedagogies for low L2 proficiency students in particular.

A number of later studies (Al-Semari, 1993; Aljamhoor, 1996; Al-Hazmi & Scholfield, 2007; Al-Humaidi, 2008; Alhaisoni, 2012) investigated Arab EFL learners' use of sub-processes in composing their written texts. For example, in Saudi Arabia, Alhaisoni (2012) examined the planning

strategies of university students and the effect of L2 proficiency on the frequency of their use. The findings demonstrated that proficient writers planned their work more extensively and more frequently and considered the targeted reader more carefully than less proficient writers who tended to focus more on linguistic accuracy.

Genre approaches

Genre research has also shaped EFL writing theory and practice in the Arab world. One area of concern is the transfer of linguistic features of Standard Arabic prose (Fakhri, 2004). The key findings of Al-Jubouri (1984) and Johnstone (1990) demonstrated that Arabic discourse is highly paratactic (i.e., relying heavily on coordination at the expense of subordination), follows formulaic patterns, and uses repetition adding no new information to the text. The prevalence of these features has been attributed to the orality of Arabic discourse. Al-Batal (1990) suggested an impact from certain Arabic connectives that function at discourse level, encoding hierarchical relationships among parts of the text and enhancing the rhetorical effectiveness of arguments in that culture. Al-Haq and Ahmed (1994) found that Arab EFL students had problems with the cohesive devices - such as substitution, lexical cohesion, transition, deixis - that form meaningful connections between sentences over larger stretches of text.

Another area of study is conducted within the framework of Contrastive Rhetoric studies. These studies (for example, Zizi, 1978; Ouaouicha, 1986) have compared the rhetorical structure of Arabic and other languages (mostly English). The findings reveal that culture-specific discrepancies can have practical implications for teaching EFL writing and should be taken

into account when designing and implementing instructional models, selecting teaching materials, and developing classroom activities.

The findings of Middle Eastern research studies have provided useful insights that answer some of the concerns exist in the teaching and learning of L2 (or L3) writing at the Arab tertiary level. However, these studies were conducted exclusively within the context of the process approaches (Elkhatib,1984; Alam ,1993; Al-Sharah,1997; Halimah, 2001; El-Aswad 2002) and in genre approaches (Zizi, 1978; Al-Jubouri,1984; Ouaouicha, 1986; Johnstone,1990; Al-Batal, 1990) in a rigidly independent fashion, so have limitations. This has the implication to suggest that EFL writing pedagogy in Arab universities is still short of both a comprehensive theory and more balanced model of writing instruction. Chandrasegaran (2009, p.341) asserted that a more coherent and comprehensive approach can emerge from integrating the best merits of the two approaches that “would give us a social-cognitive model from which to devise a more effective pedagogical approach to teaching writing”.

There is research (Applebee, 1986) that writing is both a process for engaging in critical thinking and the externalisation of the results of critical thinking. Thus, a well-written text reflects critical thinking. Fostering critical thinking skills has become a necessary prerequisite in most tertiary education environments as a precursor to the teaching of academic writing characterised by its argumentative nature (Lillis & Turner, 2001). In Carr’s (1988, p. 73) view “Every teacher should create an atmosphere where students are encouraged to read deeply, question, engage in divergent thinking, look for relationships among ideas, and grapple with real life

issues”. An atmosphere that does exist at Arb tertiary level writing instruction in which students are put in a peripheral place in the classroom and their critical thinking abilities to negotiate and evaluate their ideas and reflect on others’ ideas are undervalued or even negated.

Therefore, there is still a pressing need to devise a more comprehensive and complementary pedagogical approach. To achieve this objective, the researcher proposed the application of a modified integrated process-genre model in the context of this study. An approach that pulls together an explicit instruction of the cognitive processes of composition and systematic instruction designed to facilitate Iraqi EFL students’ awareness of the textual conventions of academic writing so that they can effectively and successfully achieve their communicative goals into an English-speaking community, and thereby gain an entry to participate into this community (Johns, 1997). An approach that is also hoped to help Iraqi EFL undergraduate students develop their critical thinking skills and apply them when negotiating and resolving a controversial socio-scientific issue to reach a reasoned judgment.

2.8 Socio-scientific Issues and Informal Reasoning

Socio-scientific issues are “based on scientific concepts or problems, controversial in nature...” (Sadler & Zeidler 2005a, p. 113) in the form of “ill-structured problems with no definitive correct answers...” (Kuhn, 1991, p. 10). They are ideal topics as they provide students with a meaningful context to which their reasoning skills can be applied and upon which they can make informed decisions (Kuhn, 1993; Means & Voss, 1996). Students’ achievement should not be measured only by the acquisition of disciplinary

content knowledge, but also by the way they learn how to integrate it in new and meaningful ways to evaluate, and analyse the diverse ethical, moral and social implications surrounding it to guide and influence their reasoning processes to make rational decisions when negotiating and resolving a controversial issue (Zeidler, Sadler, Simmons, & Howes, 2005; Facione, 2007).

Means and Voss (1996) and Sadler (2004) claim that the reasoning involved in the generation and evaluation of a judgement on a socio-scientific issue is 'informal reasoning'. Zohar and Nemet (2002, p.38) describe informal reasoning as

...reasoning about causes and consequences and about advantages and disadvantages, or pros and cons, of particular propositions or decision alternatives. It underlies attitudes and opinions, involves ill-structured problems that have no definite solution, and often involves inductive (rather than deductive) reasoning problems.

Informal reasoning is a thinking process that subsumes cognitive and affective processes and leads to the construction and evaluation of arguments (Kuhn, 1993). It facilitates engagement in higher order mental processes. It is the means by which students evaluate possible risks and benefits, or the advantages and disadvantages, of an issue from multiple social, ethical and moral perspectives in pursuit of a resolution (Newton, Driver, & Osborne, 1999; Sadler & Donnelly, 2006). Perceived this way, informal reasoning is recognised as a rational process that evolves to serve

argumentative ends through which the results of science are generated (Sadler, 2004).

Informal reasoning has been categorised as rationalistic, emotive, and intuitive (Sadler & Zeidler, 2005b, p.73). Rationalistic informal reasoning demonstrates scientific knowledge-based considerations. Emotive informal reasoning encompasses feelings such as empathy for the well-being of people. Intuitive informal reasoning is based on immediate personal reactions. Like emotive reasoning, intuitive reasoning is an effective response; however emotive reasoning directs emotion toward the well-being of others, intuitive reasoning is an inexplicable reaction.

Students demonstrate informal reasoning through argument which is “an external expression of informal reasoning” (Sadler & Zeidler, 2005b, p. 73). An argument in the context of an SSI “involves reasoning about causes and consequences and about advantages and disadvantages, or pros and cons, of particular propositions or decision alternatives” (Zohar & Nemet, 2002, p. 38). In this study, an argument is defined as an assertion that is presumed to be open to debate, thus it involves considering an issue from various perspectives, challenging any possible assumptions underlying the issue, and exploring its possible alternatives, and requires justification or substantiation to rationalise a particular favourable position (Means & Voss, 1996, p.141). Zohar and Nemet (2002) suggest that students need to learn the importance of “grounding decisions on reliable knowledge” and that quality arguments “include true, reliable, and multiple justifications” (p. 40).

2.8.1 Content knowledge and quality of reasoning

It is claimed that there is a positive relationship between prior conceptual understanding of a SSI and the quality of informal reasoning patterns.

Zeidler and Keefer (2003) assert that the exclusion of topic-specific content knowledge from informal reasoning allows the social aspects to dominate and, consequently, resolutions are offered on the basis of emotions. Chinn and Brewer (2001), Zohar and Nemet (2002) and Schwarz and Glassner (2003) contend that content knowledge is an important means of empowering students to engage meaningfully in informal reasoning.

Individuals with a strong conceptual understanding of a topic are better able to achieve more plausible reasoning than those without such knowledge.

Metz (1995) asserts that success at completing an inquiry-based task is dependent on understanding both the subject matter content and enquiry practice rules such as posing questions and gathering and interpreting data.

Wiley (2003) also found that limited content knowledge can have a negative effect on the quality of students' reasoning, in that it hinders the ability to weigh and discredit propositions that contradict their own views. Students with limited content knowledge do not have the resources to generate two-sided arguments and are left to focus exclusively on their own position.

However, the influence of conceptual understanding on the quality of informal reasoning and argumentation in the context of a SSI is contentious.

Kuhn (1991), Means and Voss (1996) and Eskin and Bekiroglu (2009) have argued that, even though increased content knowledge supports informal reasoning in terms of generating more claims and justifications, it does not guarantee higher quality reasoning. They assert that reasoning is limited by

the absence of counter-arguments, the weighing and evaluating of alternative points of view, and the offering of rebuttals, rather than through the absence of content knowledge.

2.8.2 Development of reasoning skills

Enhancing students' critical thinking skills has become a necessary requisite for an effective pedagogy of teaching academic writing (Lillis & Turner, 2001). Such skills enable students to go beyond the simple mental activities of recalling and retelling facts to higher level skills involving synthesis and evaluation (Bereiter & Scardamalia, 1987). These higher level skills are essential for producing well-supported arguments when resolving an SSI (Facione, 2007).

Fostering students' collective and individual intellectual capacity is only possible through applying argumentation as an instructional method (Felton, 2004; Nussbaum, 2008; Mercer, 2009) where reasoning skills are nurtured through student participation in a collaborative argumentative dialogue. Such dialogue offers students an effective training ground for the development and internalisation of the habits of critical enquiry; it advances their argumentation skills- their ability to evaluate claims, to formulate arguments and provide support for their positions - and they learn to consider others' perspective (Reznitskaya, Anderson, McNurlen, Nguyen-Jahiel, Archodidou, & Kim, 2001; Andriessen, Baker, & Suthers, 2003; Fenton, 2004; Baker, 2009).

The reasoning process involved in argumentation is a continual virtual negotiation process in which the writer aims to persuade the audience to

accept the claims advocated (Bakhtin, 1986). Lang (2000, p. 20) asserted that critical thinking is "a dialogical process that produces an increasingly sound, well-grounded, and valid understanding of a topic or issue, involves participants [in] developing and examining their ideas as fully as possible...and examining and challenging the ideas of others" (p. 20). Furthermore, it is believed that the ability to take on more than one perspective arises from participating in discussions with others who hold different perspectives (Anderson, Nguyen-Jahiel, McNurlen, Archodidou, Kim, Reznitskaya, Tillmanns & Gilbert, 2001, p.2).

Perceived as such, individual reasoning ability is best developed and promoted through social interaction and active engagement in argumentative discourse practices (Kuhn, 1992). Such ability, according to Lave and Wenger's (1994, cited in Mercer, 2009), can be learned and transmitted. It is part of the culture of language use that individuals grow into and collectively learn, practise, and acquire through engagement with more knowledgeable members of the community of practice.

2.9 Socio-constructivist Theory of Learning

The sociocultural theory views higher cognitive development as arising from social interaction and engagement between people with different levels of skills and knowledge. This social interaction perspective of learning has its root in the socio-constructivism theory of learning (Suthers, 2006). Among theories related to this paradigm is the one pioneered by Vygotsky (1978) - Sociocultural Theory (SCT).

Although SCT focuses on child cognitive development, it is applicable to adult learning situations in symmetrical (expert- novice) as well as asymmetrical (equal ability) groupings (van Lier, 1996, cited in Storch, 2002). It is built on three tenets: zone of proximal development, mediation and scaffolding (Wertsch, 1985).

2.9.1 Zone of proximal development (ZPD)

Vygotsky (1978) contended that higher human mental capacities have their roots in the social interaction and collaboration between two or more people with different levels of skill and knowledge; it occurs in an evolutionary context that is historically situated and culturally shaped (Wertsch, 1985; Crotty, 2003; Mitchell & Myles, 2004). Vygotsky stressed that at least two developmental levels must be determined: the actual developmental level and the level of potential development. The former “defines functions that have already matured, that is, the end product of development” and the later “defines those functions that have not yet matured but are in the process of maturation, functions that will mature tomorrow but are currently in an embryonic state” (p. 86).

Vygotsky (1978) introduced the notion of the Zone of Proximal Development (ZPD) in support of the dynamic role of engagement with more knowledgeable adult or more advanced peers in the development of individuals’ higher mental functioning (de Guerrero & Villamil, 2000; Lantolf, 2009). Its most often quoted definition is - “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through

problem solving under adult guidance or in collaboration with more capable peers” (Vygotsky, 1978, p. 86).

2.9.2 Mediation

Another cornerstone of Vygotsky’s psychological theory is mediation (Wertsch, 1985). He (1998) contended that human cognitive developments are never "direct, innate, natural forms”, but instead are “mediated, artificial, mental functions that develop in the process of cultural development" (p.168) through the use of the mediating action of psychological and symbolic tools, signs, and the people who use them (Guk & Kellogg, 2007). For socio-constructivists writing is a “semiotic process that has its root in participation and interaction through socially mediated writing activities leading to the translation from inner speech, or internalized thought, to outer speech in the form of writing” (Vygotsky, 1986, p.182).

An essential feature of these symbolic and physical tools is that they are not invented by individuals in isolation, but are created and shaped by humans under specific cultural and historical evolution. They carry the past into the present and individuals had access to them only by being actively engaged in the activities of their communities through social interactions (Cole, 1996). In that, they are culture-specific in terms of meaning and purpose infused to them by the given community and thus had no meaning whatsoever outside its cultural convention which made them what they were (Kozulin, 2003, p. 26).

These tools are the necessary condition to “understanding how human mental functioning is tied to cultural, institutional, and historical settings

since these settings shape and provide the cultural tools that are mastered by individuals to form this functioning” (Wertsch ,1994, p.204). In Vygotsky’s words (1981), they include: “language; various systems for counting; mnemonic techniques; algebraic symbol systems; works of art; writing; schemes, diagrams, maps, and technical drawings; all sorts of conventional signs, and so on” (p. 137).

In Vygotsky’s view (1978), learners learn how to use cultural artefacts first under the assistance of parents, teachers, or more experienced peers and ultimately internalize the knowledge socially transacted through assisted performance. The tools are transformed into individual’s pre-existing intra-mental repertoire and, as a result, new knowledge is eventually shaped, created, and integrated (Luria, 1979). They become learners’ inner cognitive tools for the organization and control of their mental processes and behaviour moving them towards “grow[ing] into the intellectual life of those around them” (Vygotsky, 1978, p.88) and thus they manage to self-regulate themselves to become progressively independent in carrying out their subsequent endeavours. Vygotsky acknowledges that the acquisition of these tools is not spontaneous and requires guided assistance to encourage learners’ “independent, agentive performance and to be able to transfer what is appropriated in a given circumstance to future situations” (Poehner & Lantolf, 2010, p.316).

2.9.3 Scaffolding

Scaffolding as a teaching strategy originates from Vygotsky’s (1978) construct of the ZPD but it was Wood, Bruner, and Ross (1976) who first presented the concept of scaffolding and investigated its practical

implication. It is “an adult controlling those elements of the task that are essentially beyond the learner’s capacity, thus permitting him to concentrate upon and complete only those elements that are within his range of competence” (p. 90).

Scaffolding operationalises collaborative guided learning in students’ ZPDs; a concept which emphasises the role of social interaction in promoting cognitive development and bridging the gap between what learners actually know and what they potentially know (Pea, 2004; Holton & Clarke, 2006). A central argument of Vygotsky’s theory proposes that “working together with another person, either an adult or a more competent peer at a level that is just above a learner’s present capabilities, is the best way for the learner to move into the next layer” (Williams & Burden, 1997, p.40).

Therefore, Vygotsky defined scaffolding instruction as the role of teachers and knowledgeable others in supporting students to optimise their learning and bring maximum skills and knowledge “through learning activities that serve as interactive bridges to transit them to the next stage or level through their ZPDs” (Raymond, 2000, p. 176).

Vygotsky (1978) sustained that in order for scaffolds to be an efficient and effective powerful instructional tool for teachers to support students in their learning until they can apply new skills and strategies with unassisted efforts, they should be geared towards the part of the ZPD referred to as the "sensitive period": that gap between what students can do unassisted and what they can achieve with assistance. In his words (p.212)

...good instruction should proceed ahead of development and should awaken and rouse to life an entire set of functions, which are in the stage of maturation and lie in the ZPD. It is in this way that instruction can play an extremely important role in development

A distinctive feature of scaffolding is its transitory nature (Bodrova & Leong, 2001; Larkin, 2002; Gibbons, 2002; Hyland, 2007). It describes the process of the gradual transition from assisted to independent performance over time. The teacher gradually dismantles the degree of assistance provided as students move towards mastery of new higher level skills, knowledge to the point where they become less reliant on the expert and can independently apply them to achieve more advanced or new writing tasks in future. Scaffolding's ultimate aim is autonomy; as Vygotsky (1978, p. 87) put it, what the learner can do today only with assistance, she will do independently tomorrow.

2.10 Summary of the Chapter

The history of teaching academic writing has witnessed a succession of distinct approaches with competing pedagogical foci. This chapter has examined the four main approaches that have dominated the teaching of academic writing for the past forty years - the product, process, genre-based, and integrated process-genre approaches. The major shifts described trace the movement away from linguistic accuracy and the imitation of model texts to the writer composing as an independent producer, to writing as a creative and recursive process, to consideration of the readership and to the adoption of genres which provide entree to particular discourse

communities. The need for the integration of the two dominant approaches - process and genre - into the MIM model to teach academic writing in an Iraqi university-level context is justified.

A review of the major findings of studies undertaken on process writing in ESL/EFL contexts and the application of the process and genre approaches in Arab settings are provided.

The advantages of using socio-scientific issues as instruments to teach informal reasoning skills and arguments are presented and the relationship between topic content knowledge and quality of academic writing is canvassed.

Finally, the basic premises of Vygotsky (1978) socio-constructivist theory of learning and intellectual development are reviewed. The notion of scaffolding as a teaching technique is introduced. Their relevance and importance to the current study are justified.

CHAPTER 3:

THE MODIFIED INTEGRATED PROCESS-GENRE MODEL

3.0 Introduction

This chapter details the theoretical framework of a Modified Integrated Process-Genre Model (MIM) that is the subject of this study. The model includes a number of modifications to Badger and White's (2000) integrated process-genre model based on the English for Academic Purpose (EAP) approach, which itself has been strongly influenced by Swales' (1981, 1990) and Hyland's (1990) work. Adaptations stem from Flower and Hayes' (1981) cognitive writing model. The rationale behind the modifications is provided. A proposed plan for teaching the MIM is introduced, and the overall benefits of the MIM are outlined.

3.1 The MIM: Rationale and Significance

The modified integrated writing interventional approach draws on the Badger and White's (2000) integrated process-genre model, albeit with several modifications. The rationales for this choice is based on the assumption their model has "the most influence on L2 writing instruction worldwide; grounding teaching in a solid research base and drawing strength from an eclectic set of pedagogies united by commitment to needs analysis, contextual analysis, genre description and linguistic theories" (Hyland, 2002, p.126). Badger and White (2000) sustained that these approaches were indeed largely complementary other than in opposition to each other and presented an approach that offered a basis to find areas of complementarity between the cognitive perspective and the social perspective. Their model is widely acknowledged and accepted as a

desirable, coherent, and pluralistic approach which incorporates diverse learning activities that reflect learner needs (Mellow, 2002).

The benefit of this model is its hybridity, ensuring the synthesis of the merits of both the process and genre approaches. It takes into account the development of students' creative writing skills and informal reasoning strategies, knowledge of the social context in which writing evolves and acquires meaning, knowledge of the ways in which a variety of academic texts are patterned and gives due recognition to the key recurring language features that lead to the realisation of communicative ends (Kim & Kim, 2005; Frith, 2006; Gao, 2007). The Badger and White's (2000) integrated model has "the most influence on L2 writing instruction worldwide; grounding teaching in a solid research base and drawing strength from an eclectic set of pedagogies united by commitment to needs analysis, contextual analysis, genre description and linguistic theories" (Hyland 2002, p.126).

However, designing and implementing an effective and appropriate approach to developing writing proficiency in EFL students requires the teacher to systematically mediate a number of interrelated variables including the educational traditions of its participants, their immediate writing needs, instructional objectives and linguistic and cultural experiences to enable students to handle university-level writing tasks successfully and to manage the practical teaching difficulties that apply in any given context (You, 2004; He, 2009). This implies the need to select what better suits the unique local context. To this end, the MIM draws on

the EAP genre to raise the academic genre knowledge of Iraqi EFL students and on the work of Flower and Hayes (1981).

The rationale for the choice of the EAP tradition is based on the assumption that its overriding goal is, by definition, to help its participants develop an adequate level of academic writing competence (Reid 2001). One of its most influential and broadly conceived pedagogical objectives is to help students raise their awareness of the rhetorical and linguistic constraints of academic genre, and to familiarise them with the procedures, practices, and conventions that make the production of the text relevant to a particular socio-rhetorical context (Flower & Peacock, 2001). Such awareness is an essential prerequisite in developing students' academic communicative competence and allowing them to operate successfully academically (Swales, 1998; Bhatia, 2002; Hyland, 2002, Paltridge, 2002).

University students routinely use a particular genre type - namely, academic argumentation - to give expression to a specific communicative purpose. EFL students in this context therefore are expected to use structural forms which impose constraints, not only on the lexico-grammatical resources required, but also on schematic regularity, content and style. EAP genre-based writing pedagogy has become, therefore, more pragmatically-driven aimed at helping students to develop an understanding of what academic communication is like and how it operates (Swales, 1990).

Swales' (1990) move structure analysis provides a useful pedagogical instrument that can help students capture textual features of a genre and its allowable order together with related linguistic resources (Green & Weir,

2003; Storch & Tapper, 2009). More importantly, Swales' scheme can be applied to the teaching of academic genre, especially to novice L2 writers in a tertiary education context, since it has identifiable, manageable and teachable macro-structure components (Bhatia, 1993; Dudley-Evans, 1995; Ramanathan & Kaplan, 2000; Hyland, 2004).

Following Swales' (1981, 1990) lead, many EAP researchers (Hyland, 1990; Bhatia 1993; Flowerdew 1993; Swales & Feak 2000, 2004; Johns, 2011) have supported the use of an explicit descriptive framework of the macro-rhetorical organisation of academic argumentative genre. In this study, the teacher used Hyland's (1990) academic argumentation structural framework as a scaffolding tool, making apparent the macro-structure of the model text and showing the logical sequence of the 3-obligatory stages: the thesis to be argued, the argument to provide grounds for the thesis, and the conclusion to affirm the thesis - as well as other optional moves. The functions they served were described as well as how each stage contributed to the overall social function of the text. This framework aimed to increase students' genre awareness, to facilitate their writing by guiding the organisation and sequencing of their thoughts and to provide help during editing and revising stages. The discursive practices responsible for generating argumentative genre were presented to students in the following instructional guidelines:

- State writer's position on the issue in introductory paragraph
- Support his/her position
- Develop support with relevant details
- Raising and countering opposing views
- Maintain writer's position in body paragraphs

- Restate position in concluding paragraph.

3.2 Badger and White's model: Practical Limitations

Badger and White (2000) model proposes a six-stage plan for writing: preparation; modelling and reinforcing; planning; joint text construction; independent text construction; and revising.

Stage 1: Preparation

The preparation stage defines the social situation of the text in order to establish its particular purpose. The writing purpose constrains the subject matter, the writer/audience relationship and the channel through which the contentment of the message is transmitted. In this stage, students identify the pertinent social context, find appropriate text organisers and draw on their knowledge of appropriate vocabulary items and grammar structures to produce a text that matches the particular purpose of the writing task. (Yan, 2005, p.21).

Stage 2: Modelling and reinforcing

In the modelling and reinforcing stage, a model text leads students to consider the social purpose and the audience of the text.

Stage 3: Planning

Students' background knowledge related to the topic is activated through brainstorming, discussion and reading relevant material.

Stage 4: Joint text construction

Students begin writing their texts with the assistance of the teacher and in collaboration with peers.

Stage 5: Independent text construction

Individual texts are composed with help from the teacher.

Stage 6: Revising

The draft texts undergo final revision and editing.

The Preparation, the Planning and the Revising stages of Badger and White's model have a number of practical limitations. In the Preparation stage, students identify the pertinent social context, find appropriate text organisers and draw on their knowledge of appropriate vocabulary items and grammar structures to produce a text that matches the particular purpose of the writing task. Placing a text within a particular social situation "activates the schemata and allows students to anticipate the structural features of the genre [such as a persuasive essay arguing for or against an issue of current interest]" (Yan, 2005, p.21).

Arab EFL students have had limited exposure to academic genre schema in terms of its textual and linguistic attributes (Al-Khuweileh & Al-Shoumali, 2000; Al-Hazmi & Schofield, 2007; Fitze & Glasgow, 2009). Consequently, the students in this study may find it difficult to construct a mental representation that permits them to assimilate the new concept of genre into their pre-existing knowledge, activate it and act upon it. Furthermore, many will lack adequate knowledge to help them make decisions about the language most appropriate to a particular audience. They may find it difficult to relate the purpose of writing to the subject matter and to address the writer/audience relationship as well as organise the required text to convey their ideas to their audience.

In the Planning stage to teach Badger and White's (2000) model, the teacher and students work together to begin writing a text. While doing so, the writing processes and strategies of brainstorming, drafting, and revising are taught. Being taught in such a reductive fashion, these complex cognitive operations do not receive detailed individual treatment. Without developing and acquiring knowledge about them through modelling and practice, the students experience what Flower (1981, p.30) calls "writer's block"- that is, they get stuck at a point in the writing process and cannot proceed.

Badger and White's model does not do justice to the translating process required of EFL students in that this process is taught together with other writing processes and strategies in the Planning stage. Others (Flower & Hayes, 1981) maintain that translating is crucial to the composing process as it enables students to convert their brainstormed ideas, which may form a complex network of relationships, into a coherent linear piece of written English. These cognitive operations demand that students cope with a variety of distinctive problem-solving and decision making processes during composing (Flower & Hayes, 1981). As the students have limited knowledge of these cognitive processes, they represent a significant challenge to apply (El-Daly, 1991; Fageeh, 2003; Al-Khafaji, 2005; Al-Temimi 2005).

In a further modification to Badger and White's (2000) model which sees Revision delayed until the final text is produced, when it is often too late for students to reflect on comments and suggestions from the teacher and peers and incorporate new ones. Students need to be made aware from the very

beginning of the composing process that they have to consider how readers of their drafts, which Murray (1978, p.87) calls “discovery drafts”, appreciate them and accordingly react to revise them. This self-awareness stimulates them to share ideas with peers and critically respond to the facilitative feedback they receive from them and the teacher and incorporate it into their drafts to reach an improved final revised draft that will better communicate their ideas to the target audience (Flower & Hayes, 1981). Revising results in simple or major improvements to the content or its coherence (Fitzgerald, 1987).

When revising, editing is performed, the writer has to deal with mechanical issues, such as correcting spelling, punctuation, grammar, and capitalisation and the expression of ideas simultaneously. It is the writer’s prerogative to decide when enough content has been generated, when revision is necessary and when a final draft has been achieved.

The modifications incorporated in the MIM are based on the belief that strict adherence to Badger and White’s plan with respect to Preparation, Planning and Revising would not meet the unique needs of EFL Arab/Iraqi students. To accommodate and overcome the significant barriers of the Badger and White plan, features of Flower and Hayes’ (1981) model were incorporated in the EAP genre to teach the MIM used in this study. In this way, the plan to teach the MIM mirrors Swales’ (1981, 1990) and Flower and Hayes’ cognitive processes involved in writing.

3.3 The influence of Flower and Hayes' model

Given the foregoing methodological limitations of the Badger and White's model, it fails to foreground the demands that underpin the mainstream writing pedagogy and practice of a particular EFL context as in Iraq. To address its limitations and adapt it to this local context, the researcher proposed incorporating an explicit instruction of the writing processes and sub-processes as identified by the Flower and Hayes, (1981) model. The rationale for this choice is based on several reasons. This model has been the most influential writing process model and a seminal piece of research in the field of writing process (Xinghua, 2010; Moran & Soiferman, 2010, cited in Wei, Shang & Briody, 2012). Furthermore, a major value of this model lies in the fact that it gives a systematic and detailed description of the thinking processes involved in the writing process. They include "planning, translating, and reviewing" (p. 369), and the external factors that may influence writing performance. Flower and Hayes suggest that "the process of writing is best understood as a set of distinctive thinking processes which writers orchestrate or organise during the act of composing" (p.366).

The writing processes and strategies are recursive, exploratory and generative and can be evaluated at any stage in the composing process. None of them is meant to follow any strict linear fashion. They are hierarchically organised in that they interact with one another and each process can embed other instances of the writing processes carried out at any stage throughout the composing process. They can be reviewed, evaluated, and revised again and again while writers discover and

reformulate their ideas as they attempt to approximate their meanings before completing the writing assignment.

Planning

The Planning process creates an internal representation of the network of ideas which will be used in writing. This planning not only involves the development of a detailed plan, it also evolves through a typical sequence of three sub-processes: generating and organising ideas, and setting goals. The planning process challenges the writer to retrieve relevant keys ideas from the task environment and long-term memory about the writing task, organise the retrieved ones into groups and establish conceptual relations between them to trigger new ones. Such explorative strategy promotes writers to set adequate writing goals that give direction to the development of the text. Goal setting is not limited to the initial writing stages, they can be constantly revised and abandoned and new ones might be adopted at all levels the writing process as the writer's sense of the rhetorical problem of the writing task grows.

2. Translating

Translating is the stage where the writer acts on ideas that arise during the planning stage. Ideas are converted to text and organised into linear written English to create coherent progress of argumentation. Translation creates language resources that correspond to information in the writer's memory. However, translating is not an entirely straightforward process, since writers do not necessarily have a final meaning which is easily articulated. Perceived as such, the act of translation is not an entirely straightforward

process. It can add new constraints and often forces students to develop, clarify, and revise the content and form of what they want to convey.

3. Reviewing

Reviewing is the conscious goal-directed process by which the writer moves backwards at any point in the text for evaluating and revising the final draft. It depends on two “sub-processes: evaluating and revising” (Flower & Hayes, 1981, p. 374). Revising results in simple or major improvements on the content or its coherence (Fitzgerald, 1987). Evaluating involves assessing with regard to the purpose of the writing and satisfying audience expectations. Thus, it can initiate new cycles of planning and translating processes. After improving the quality of content in this stage, editing is performed to take care of spelling, capitalisation, punctuation and grammar to meet “standard language conventions, accuracy of meaning, reader understanding, or reader acceptance” (Hayes & Flower, 1980, p.18).

All the above writing processes in Flower and Hays’ (1981) writing model are controlled by a monitor. It represents the writer’s capacity to shift between the processes to decide when enough content has been generated, when revision is necessary and so forth while in the act of composing.

Flower and Hayes’ (1981) model is useful for a number of reasons, prime among them being its focus on providing a systematic and detailed description of the complex, non-linear, and recursive nature of the composing process and of the external factors that influence writing performance. The implication of this model is the mental operations

involved in writing can be broken down into a series of distinctive, hierarchical and convenient stages which flow into each other interactively and recursively. Under this model, writing can be greatly less daunting, tedious and laborious, and more manageable to students. Conceptualised in this way, Flower and Hayes' model provides a practical and manageable framework for the writing process presenting concrete and operative pedagogical procedures. It facilitates the design of a focused and clear instructional plan which takes the students step-by-step through the writing processes and strategies as individual stages in their own right.

Practically, Flower and Hayes' (1981) model enables the EFL students to concentrate on and complete one cognitive operation at a time, thus helping them cope with the complexity of the writing process. It allows them ample time to practise planning, translating and revising strategies and gradually gain control over them to generate, to revise, and to edit their first drafts, to proceed more confidently with the writing task.

3.4 The Structure of the MIM: Implementation Plan

Following (Badger & White, 2000; Yan, 2005; Paltridge, 2001; Kim & Kim, 2005), the teaching plan of the resultant MIM is based on the Curriculum Cycle proposed by SF linguists such as Derewianka (1990) and the writing processes and sub-process as identified by Flower and Hayes (1981). The plan consists of four main cycles: context exploration, text modelling and reinforcing, join-text construction, and independent text construction. How these cycles are intertwined and unified, each being based on and expanding the preceding one throughout the composing process is schematically presented (Figure 3.1). The use of two-way arrows

does not signify linear progress, but dynamic interrelation and interdependence among the four cycles.

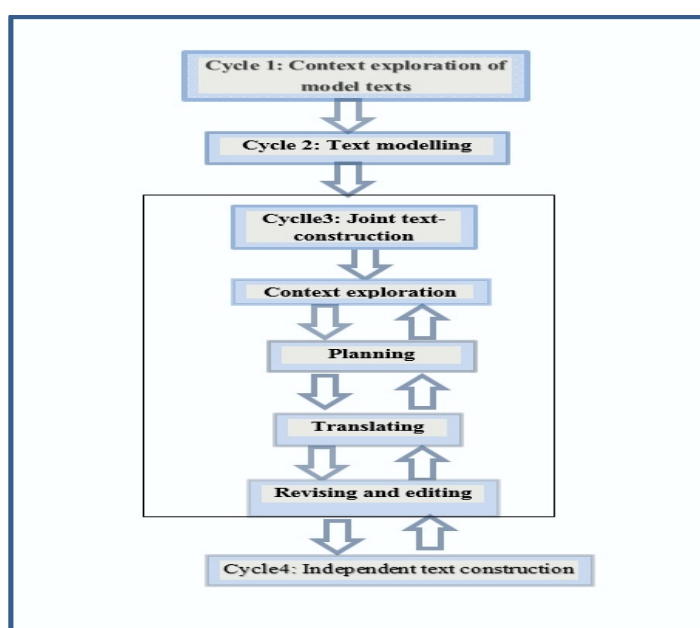


Figure 3.1: The MIM Teaching Plan

Cycle 1: Context exploration

This cycle involves exploring hypothetical contextual features surrounding the two authentic texts (Appendix 8) used as models. Firstly, the teacher identifies and explains the communicative purposes of the texts, and secondly, discusses the beliefs, concerns and interests of a hypothetical target audience. The pedagogical objective is to train students to predict and thus be aware of the potential socio-cultural features in which the authentic texts are shaped, evolve and acquire meaning (Badger & White, 2000; Johns, 2001).

Cycle 2: Text modelling and reinforcing

This cycle involves students in more focused exposure to examples of authentic SSI-based model texts. They play crucial role as mediational

cultural instruments to scaffold them to “become more observant readers of the discourse conventions of their fields, and thereby deepen their rhetorical perspectives on their own disciplines” (Swales & Lindemann, 2002, p.118).

The teacher models and explains the stages and moves of the model texts (Appendix 8). The discourse practices responsible for generating argumentative genre, using Hyland’s (1990) framework, are presented to students as a cultural artefact with an emphasis on stating and maintaining their position in the introductory and subsequent paragraphs; restating this position in the concluding paragraph; supporting this position by providing relevant details; and raising and countering opposing views.

The teacher also exposes the students to a visual and explicit representation of a variety of recurring informal reasoning patterns (Appendix 8) used by the writers of the two model texts to make moral and rational judgments towards the issues at hand. The teacher also exposes them to specific lexico-grammatical and discourse aspects including external conjunctions that mainly signal causal, contrastive relations and relations between clauses within a sentence, text connectives that link sentences and paragraphs, modal and assertive verbs and expressions. The teacher encourages the students to participate throughout collaborative classroom activities. The students also undertake comparisons with similar texts to reinforce what they had learned about the argumentative genre.

The teacher uses the quality writing criteria from the quality matrix (Appendix 7) to direct the pedagogical foci on genre generation and

argumentation discourse practices. The evaluation criteria also offer students a checklist for revising their drafts.

Text modelling and quality writing criteria, Hyland's framework and informal reasoning modelling provide the opportunity for object-regulation learning in which, according to Vygotsky (1978), individuals are stimulated and regulated by the mediation of cultural artefacts existing in their immediate social environment as a starting point to for them to think and learn. Such mediational instruments are believed to enable gradual transfer of responsibility from the teacher or the social group to the individual student to eventually achieve autonomy.

This cycle assists students in developing awareness of the rhetorical discursive practices of academic argumentative texts in order to understand how and why they are used for particular effects with specific audience, as well as their typical linguistic resources (Bhatia, 1993; Swales & Lindemann, 2002). A number of collaborative classroom activities were conducted (Appendix 8) in Weeks, 1, 2, 3 and 4 with the total of 8 (50 minutes) class periods being given over to these activities.

Cycle 3: Joint text construction

The objective of this cycle is to collectively write an argumentative essay of 250-300 words. The teacher instructs the students to agree upon one of the six writing prompts suggested by her (Appendix 11) to write about. The students operationalise the writing processes they already learned when writing jointly including planning, translating, and reviewing, as identified by Flower and Hayes (1981, p.369), to produce a joint text. Each process is

recursive, exploratory and generative and may occur at any time in the composing process.

The students read baseline materials expressing multiple perspectives about the topic of GM foods. These materials help students develop their understanding of the issue (Hu, 2007), similar to what Perkins and Salomon (1989) referred to as the “rules of the game” (p. 17). These readings provide students with opportunities to practise writing using background sources and help them to brainstorm any ideas and thoughts already stored in long term memory (Brice 2004). Hyland (2003) maintained that a careful and critical reading of model texts has a positive influence on composing skills at various levels of proficiency as “extensive reading can furnish a great deal of tacit knowledge of conventional features of written texts, including, grammar, vocabulary, organizational patterns, and interactional devices and so on” (p. 17). It also helps students “develop and refine genre awareness” (Grabe, 2003, p. 245). Listening is also involved, “since the student not only has to learn from the texts but also make comparisons between the different texts being read, and between these and the type of text being produced” (Davies, 1988, p. 133).

The teacher employs socially mediated tools adapted from those presented by Tharp and Gallimore (1988) and Lei (2008) as temporary learning support devices to assist students with the text construction task. A number of graphic organisers are introduced and modelled, including a bubble organiser which presents a graphic representation of ideas (generated through a brainstorming session) to stimulate students’ prior knowledge. An

essay planner sheet assists the students to see the logical flow of their ideas and thoughts and establish connections between them. This tool guides their thinking to build ideas into an effective structure.

The scaffolding instruction is planned and implemented on a naturalistic whole-class basis rather than to individual learners (Mercer & Fisher, 1997, p. 209) on the assumption that it is possible for the teacher to negotiate simultaneously with a group of learners in co-constructing and moving the entire group forward in their ZPDs (Poehner, 2009). Informed by the socio-cultural notion of dynamic assessment, the nature and quality of scaffolding interventions are "graduated" with no more assistance offered than necessary, and "contingent," offering assistance only when sought by the student. (Aljaafreh & Lantolf, 1994, cited in Lantolf & Thorne, 2006, p. 211).

During this cycle the teacher assumes the role of an expert from an English-speaking community who evaluates the students' writing. The joint construction task, as a scaffolding technique, draws the students into collaborative engagement, builds their sense of teamwork and provides them with an authentic critical audience. It stimulates them to take into consideration both the teacher's feedback and peers' suggestions and to strive to respond to them.

A number of classroom activities (Appendix 9) concerned with planning strategies - Weeks 5, 6, 7 and 8: a total of 7 (50 minute periods) and reviewing and editing strategies - Weeks 8, 9, 10 and 11: a total of 7 (50 minute periods) were covered. Students learn and practise the strategies of

inventing and developing their ideas, elaborating their thoughts, conceptually grouping them and designing a tentative structure. This enables students to practise the strategies needed to put what they want to say into a coherent piece of writing. Students are also introduced to reviewing strategies to enable them to clarify and refine the content of their writing, to look at their organisation, lines of reasoning and connections between ideas in an attempt to best match meaning, audience and purpose.

Cycle 4: Independent text construction

In this stage students operationalised all the strategies and knowledge they had acquired and practised in the previous three cycles by writing a text independently on the SSI-related topic selected from the writing prompts provided by the teacher (Appendix 10). The teacher continues to monitor their efforts and offers advice. Students are encouraged to work autonomously.

In addition, a socio-scientific issue (SSI), namely, genetically modified food, was incorporated into the MIM to foster classroom enquiry-based discussion, and reasoning with a view to assisting the students to develop critical thinking skills and employ them in an attempt to formulate a thoughtful decision about such controversial issues based on various points of views, ethical, and social concerns and moral implications surrounding them (Driver, et al., 2000; Zeidler & Nicholas 2009).

In summary, the MIM teaching plan is distinguishable from the one applied in teaching the Badger and White's model particularly in the preparation, text modelling and planning cycles. Badger and White's model draws on

students' ability to decide on the communicative purpose, on their knowledge of vocabulary, and grammar and on recalling a mental representation of the required genre schema into which to put their ideas. These demands constitute a big challenge for Arab EFL students because they have little or no experience of developing a mental representation of a genre template. The text modelling and reinforcing cycle of the MIM provides students with focused exposure to model texts, and reading sessions and comparison with other texts to heighten genre awareness through supportive collaborative learning.

The planning stage in White and Badger's teaching treated the writing process as a whole, unlike the MIM teaching plan that offers EFL students the opportunity to learn and practise the writing processes and strategies in an iterative, step by step way that allows them to generate, group and translate and revise and edit their ideas before they produce the final draft. In Badger and White's teaching plan, revision is delayed until the final text is produced, when it is often too late for students to reflect on comments and suggestions from the teacher and peers and incorporate them into their text. A major modification to Badger and White's (2000) teaching plan is that with the MIM, students are made aware from the very beginning of the composing process of the significance of the revising strategy so that they are able to explore how readers appreciate their drafts, react to their constructive feedback and make the necessary improvements on their drafts before producing their final text. In the MIM plan, reviewing is treated as an on-going process that students may undertake at any point in the writing

process resulting in recursive planning and transcribing processes. Table 3.1 summarises the comparison between the two teaching plans.

Table 3.1: Comparison of Badger and White’s model and the MIM

Badger and White Teaching Plan	MIM Teaching Plan
<p>1. Preparation</p> <ul style="list-style-type: none"> Students identify social context and the audience. Students identify appropriate vocabulary items and grammar structures. Students activate their long-term memory to recall schema that allow them to anticipate the structural features of the genre arguing for or against an issue of current interest. 	<p>1. Context exploration</p> <ul style="list-style-type: none"> Students explore hypothetical contextual features surrounding model texts including communicative purposes and the beliefs, concerns and interests of a hypothetical target audience. SSIs are introduced and the topic selected by students. Students gain knowledge of the chosen SSI.
<p>2. Text modelling and reinforcing</p> <ul style="list-style-type: none"> Students use a model text to consider the social purpose and the audience of the text. 	<p>2. Text modelling and reinforcing</p> <ul style="list-style-type: none"> Students have more focused exposure to examples of authentic model texts, focussing on rhetorical features.
<p>3. Planning</p> <ul style="list-style-type: none"> Students work together to generate and organise ideas and set goals. Students are required to draw on long term memory and the task environment. Students group ideas and establish conceptual relationships between them; new ideas may be triggered. Goals are established. Scaffolds are used to assist students to connect ideas. 	<ul style="list-style-type: none"> Students undertake comparisons with similar texts to reinforce what they have learned about the argumentative genre. Extensive reading of relevant materials to enhance knowledge of conventional features of written texts - grammar, vocabulary, organisational patterns, and cohesive devices. Students are introduced to the quality writing matrix. Students are involved in collaborative activities.

<p>4. Joint text construction</p> <ul style="list-style-type: none"> Students generate, group and structure their ideas with assistance of teacher and in collaboration with peers. 	<p>3. Joint text construction</p> <ul style="list-style-type: none"> Students are introduced to the contextual features of joint text construction. Students learn and practise planning, reviewing and editing strategies and increase awareness of argumentation discursive moves and practices. Students collaborate to explore hypothetical contextual features of the target audience including their beliefs, concerns and interests about a topic. Students are introduced through scaffolding to reviewing strategies. Graphic are organisers used to stimulate students' prior knowledge.
<p>5. Independent text construction</p> <ul style="list-style-type: none"> Students work independently to compose a text. 	<p>4. Independent text construction</p> <ul style="list-style-type: none"> Students operationalise writing process and strategies. Students review and edit their work.
<p>6. Revising</p> <ul style="list-style-type: none"> Students undertake final evaluation and editing of their draft text. 	<p>Review is an ongoing and iterative process facilitated by peer/teacher feedback.</p>

3.5 Advantages of the MIM

The MIM can be viewed as a balanced, integrated writing approach embracing an “explicit teaching of specific thinking processes with efforts at raising student awareness of the social-cultural context of a writing task and deploying elements of that context in exercising the thinking processes” (Chandrasegaran, 2009, p.339). Its advantages draw on its pedagogical design that guides students through four manageable and interwoven cycles

to scaffold them to better develop their writing competence and promote their critical thinking skills. Most importantly, informed by a socio-constructive paradigm (Vygotsky, 1978), the teaching plan places an “emphasis on the interactive collaboration between teacher and student, with the teacher taking an authoritative role to ‘scaffold’ or support learners as they move towards their potential level of performance” (Vygotsky, 1978, cited in Hyland, 2003, p.26). Such design allows EFL students to be better equipped to satisfy the expectations of an English-speaking readership and thus to successfully achieve their communication goals.

As opposed to the decontextualised and artificial writing pedagogy typical in the Arab world – and Iraq - (Khalil, 1985; Sa’adeddin, 1989; El-Hibir & Al-Taha, 1992), the MIM allows students opportunities to develop awareness of the socio-cultural factors that influence writing. Cycle 1 consists of a series of collaborative activities whose focus is the social purpose of the writer/audience relationship; it provides students with the chance to contemplate, recognise and respond to the needs, concerns and beliefs of the targeted audience in relation to a controversial topic (such as GM foods - Appendix 8). Students learn to contextualise subsequent writing assignments and tasks in a real situation and avoid the danger of a decontextualised writing pedagogy (Kim & Kim, 2005; Frith, 2006; Goa, 2007).

In Arab universities students have had limited exposure to the norms and practices of academic genre (Al-Khuweileh & Al-Shoumali, 2000; Al-Hazmi & Schofield, 2007) and the MIM can help compensate for such shortcomings (Kamel, 2000; El-Seidi, 2000). It empowers students to

gradually and systematically raise their awareness of academic genre attributes. In Cycle 2, students are exposed to authentic model argumentative texts (Appendix 9) in order to examine their allowable textual and linguistics conventions. Students are introduced to these genre exemplars through scaffolded discovery-oriented classroom activities. Students aim to identify and analyse the rhetorical stages and moves; their typical linguistic features; the informal reasoning patterns utilised to realise the communicative goal of each move structure; and to create a mental representation and build a procedural knowledge of the construct academic genre.

Cycle 3 provides ample opportunities for the students to transfer and implement the knowledge they acquire to invoke the socio-cultural features of the hypothetical audience, consciously apply the genre knowledge and the informal reasoning patterns in a joint text-construction task. A fundamental contribution of this cycle is its focus on making the teaching, learning and practising of the decision-making process involved in carrying out a writing task transparent and visible to the students, processes often neglected in writing pedagogy in the Arab world (El-Daly, 1991; Fageeh, 2003; Al-Khafaji, 2005; Ezza, 2010).

Therefore, the MIM provides students with an experience of the whole writing process through a number collaborative activities (under the teacher's guidance and in collaboration with their peers) that are designed to help them think through the cognitive processes and strategies of goal setting, ideas generation, information organisation through planning, selecting appropriate language, peer-review, the writing of multiple drafts,

to produce an effective final written product. The teacher, as an experienced member of the community of practice (Lave 1998), plays the role of mediator providing the apprentice writers (the students) with ample scaffolding in the form of constructive feedback, demonstration, explanation, and reformulation so that they are helped to move through successive 'zones of proximal development' (Vygotsky 1978). The teacher's role to facilitate the exercise of writing strategies and skills and draw out their potential and so they can become independent writers and gain autonomy (Tribble, 1996). The achievement of this outcome is facilitated by the employment of several cultural mediational resources such as problem-solving questions, spider map and webbing graphic organiser, and Hyland's (1990) genre macro-structure framework. Students are empowered to explore and generate their own ideas and elaborate their thoughts, construct meaning and revise the content and form of what they have written through a set of subsequent drafts.

In comparison to the Badger and White's (2000) model, a distinctive pedagogical feature of the MIM is that it sees writing as a series of distinctive, and hierarchical stages and strategies rather than treating writing as a complex single process. The model breaks writing into manageable, a scaffolded instruction technique that helps the students who struggle with writing to concentrate on, and complete, one cognitive operation at a time and lessens student writers' anxiety about writing.

Finally, as opposed to the "banking concept" (Freire, 1998, p. 53) that still dominates teaching methods at the tertiary level in the Arab world, the MIM helps create a collaborative learner-centred learning environment that turns

the classroom into a site of knowledge-exchange, through constructive interaction, reflection, and negotiation between the teacher and students, or between the students themselves. These negotiated and collaborative interactions have the advantage of providing effective and constructive feedback, which has the potential to enhance writing proficiency, critical thinking skills and improve the quality of the final drafts. A collaborative learning environment also has the benefit of offering individualised instruction by way of teacher-student conferencing to address the limitations of one-way written feedback.

Most importantly, from a socio-constructivist perspective, the new knowledge of academic genre practices, the cognitive operations involved in writing and critical thinking skills are internalised - new knowledge is gradually matured and assimilated into each student's pre-existing innate plane (Luria, 1979). Eventually, the student gains control over this knowledge, activates it, acts upon it and takes on responsibility for managing the cognitive processes of text production (Vygotsky, 1978). Being immersed into rhetorical practice and absorbing the shared knowledge of the 'community of practice' (Lave 1998) has the benefit of enabling learners to engage in "legitimate peripheral participation to becoming culturally competent members of the community of practice" (Wenger, 1998, p, 8).

Finally, the MIM allows students to write on topics that appeal to their interests, experiences and concerns and that capitalise on their prior knowledge. Engagement with these topics motivates the students to "quantitatively more and qualitatively better write" (Zamel, 1982, p.204)

and they also create more meaningful communicative purpose and a stronger sense of audience.

3.6 Summary of the Chapter

This chapter lays the theoretical framework of the MIM. The model is based on a number of modifications to Badger and White's (2000) integrated process-genre model and theoretical and pedagogical foundations of the EAP genre approach with Flower and Hayes' (1981) cognitive approach also being utilised. The teaching plan of the MIM consists of four distinct cycles, which are intertwined and unified, each being based on and expanding the preceding one throughout the composing process. The pedagogical advantages of implementing the MIM and the benefits it can bring to EFL students are presented. Due to its appeal to the higher order thinking skills it encourages, a socio-scientific-based topic, namely GM foods was selected to teach the students critical think skills to facilitate the development of informal reasoning patterns that they need to apply to substantiate their claims to produce an acceptable writing in academia when formulating a reasonable decision to resolve such a controversial issue.

CHAPTER 4:

METHODOLOGY and RESEARCH DESIGN

4.0 Introduction

Chapter describes the methodology used and presents the research design, methods of data collection and data analysis. The research site and the target population are described. Finally, ethical issues pertaining to the current research are addressed.

4.1 Research Questions

The following research question is overarching:

How effective is the implementation of the MIM in teaching academic writing to Iraqi EFL undergraduate students?

This study is an endeavour to address two subsidiary research questions:

1. To what extent does the implementation of the MIM to teach writing improve the quality of the students' academic writing?
2. How important is the role of the MIM in improving the students' reasoning as evidenced by their ability to demonstrate informal reasoning patterns and quality arguments to support the claims they put forward?

4.2 Research Site

Al-Qadisiya University, the site of the research, is a State-funded institution situated in the mid-south of Iraq. The University was selected as the compulsory curriculum in EFL mainstream English academic writing classes was representative, in terms of the teaching resources available and

approaches used, of other universities throughout Iraq. It was also the most accessible to the researcher who had taught there.

4.3 Research Population

The targeted population of the study was third-year students enrolled in a four-year course leading to a BA in English Language and Literature. They were purposively selected as they could reasonably be expected to have had previous explicit instruction in the features of academic writing, although it is not until the third year that they were taught argumentation.

The third year students were both male and female and native speakers of Arabic, aged between 21 and 23. They came from diverse socioeconomic and regional (urban and rural) backgrounds, shared Iraqi nationality, cultural and educational backgrounds, but demonstrated different English proficiency levels, although they had a similar history of pre-university EFL learning. They study grammar, translation, composition, phonetics, and English literature among others. It is worth mentioning that Arabic is sometimes used as a medium of instruction in the English language classes. English is not used extensively in the wider society outside the classroom. EFL writing classes do not get the time they deserve (only 2x50 minute periods a week). The pedagogical focus is on the final product without calling attention to writing processes and strategies or to the development of students' awareness of academic genre.

4.4 Research Methodology

Methodology is “the strategy, plan of action, process or design lying behind the choice and use of particular methods and linking the choice and use of the methods to the desired outcomes” (Crotty, 2003, p.3). In other words, its

aim is to give a description and evaluation of, and justification for, the use of particular methods (Wellington, 2000). Informed by the exploratory nature of the two sub-research questions, this study used a mixed methods research methodology (Johnson, Onwuegbuzie & Turner, 2007) which “combines elements of qualitative and quantitative approaches...for the purpose of breadth and depth of understanding and corroboration” (p.123).

Such a methodology is useful in terms of triangulation that more than one research method is used to offset any potential biases and weaknesses that may occur. It also yields richer, more valid, and reliable findings (Greene & Caracell, 1998; Johnson & Turner, 2003; Creswell & Plano Clark 2011).

Capitalising on both the strengths of qualitative and quantitative approaches allows for greater confidence in the research findings, as the use of two approaches gives greater assurance that data be not obtained by chance and could be used to predict similar results in future research conducted under similar conditions. This also renders them more acceptable to quantitative audiences to yield richer, more valid, and more reliable findings than evaluations based on either the qualitative or quantitative methodologies alone (Hanson, Creswell, Plano-Clark, Petska, & Creswell, 2005).

Hanson, Creswell, Plano-Clark, Petska, and Creswell (2005) maintain that capitalising the respective strengths of both words and numbers allow researchers to simultaneously generalise the research findings from a sample to the parent population, ensure that they are not obtained simply by chance and to predict that similar results would be achieved again in future research conducted under similar conditions. In Creswell and Plano Clark’s (2007),

the inclusion of a quantitative element makes qualitative results more acceptable with a strong degree of confidence and thus render them more acceptable to quantitative biased audiences. Therefore, the mixed methods research methodology is particularly relevant to address the two sub-research questions and the objectives of this study.

Mixed methodology theorists have abandoned the ontological and epistemological assumptions of both qualitative and quantitative approaches in favour of a more pluralistic and flexible approach. This is characteristic of the pragmatism paradigm which claims that a false dichotomy exists between the two paradigms, and the strengths of both of them can be utilised resting on the belief that methodological decisions are chiefly driven by what best suits the research questions and the purpose of the research (Patton, 1990; Morrow, 2007). Johnson and Onwuegbuzie (2004, p.17) summarised the advantages of mixed methodology:

...it offers a practical and outcome-orientated method of inquiry that is based on action and leads, iteratively, to further action and the elimination of doubt; and it offers a method for selecting methodological mixes that can help researchers better answer many of their research questions.”

All these factors provide a solid basis for mixed methods research as the paradigm of investigation for educational research (Datta, 1994, p. 59).

4.5 Research Method Design

The research method is “the techniques or procedures used to gather and collect data related to some research questions or hypotheses” (Crotty, 2003,

p. 3). According to Grix (2004, p.68), research is best done by “setting out clearly the relationship between what a researcher thinks can be researched (the ontological position) linking it to what we can know about it (the epistemological position) and how to go about acquiring it (the methodological approach)”.

An Exploratory Sequential Design, as described by Creswell and Plano Clark (2007), was adopted to address the first subsidiary research questions. This research design is appropriate and relevant as it satisfies the need to first qualitatively explore and evaluate unknown or under-researched problems by providing exploratory data for the development of a subsequent quantitative method. Such design suggests that the organisation and flow of the data collection and analysis are weighed qualitatively. Qualitative and quantitative approaches were conducted in two phases occurring sequentially. The Independent-Samples T Test was used for inferential analysis. The test is relevant for the purposes of this study. It compares and computes means and standard deviations for the two separate, independent groups (intervention and non-intervention groups) on the same continuous, dependent variable (students’ writing performance levels). The purpose is to determine if any significant difference obtained in the performance across the two groups can be attributed to the treatment condition (or lack of treatment) and not to other factors.

The ontological stance of the qualitative research method accepts the existence of multiple realities and interpretations of single events and situations in the social world. Such realities are a construct of the human mind created by social actors and are only examined and interpreted in

terms of the meanings attached to them (Crotty, 2003; Morrow, 2007; Denzin & Lincoln, 2011). In the context of this study, as qualitative approach allowed the researcher to interact with, explore, reconstruct and interpret students' differing realities - influenced by a range of factors and experiences such as the Arabic rhetorical tradition, a teacher-centric pedagogical approach to the teaching of writing, and shared social values and religious beliefs.

A qualitative research method takes a subjective epistemology in that all knowledge and reality is constructed in and out of social interaction between individuals and their world (Crotty, 2003; Bloomberg & Volpe, 2008). With this epistemological tenet in mind, the participants will be encouraged to collaboratively question and construct their knowledge and to develop different experiences of the writing process that may influence how they perceive it.

The adoption of multiple phases allows the researcher to use the qualitative findings, obtained from the analysis of the students' pre- and post-test writings, as a basis for the subsequent phase of quantitative research aimed at comparing the findings to determine whether there are any statistically significant differences in students' pre-and post-test achievements.

Analysis of quality informal reasoning patterns and arguments in the students' pre-test essays from both groups will be undertaken to determine the occurrences and percentages of each of these patterns and arguments. The aim is to determine whether there are any substantial differences in

their occurrence across the two groups before and after the commencement of the intervention.

The research method design to collect and analyse data was implemented in four stages: preparation, implementation, collection and analysis (Figure 4.1).

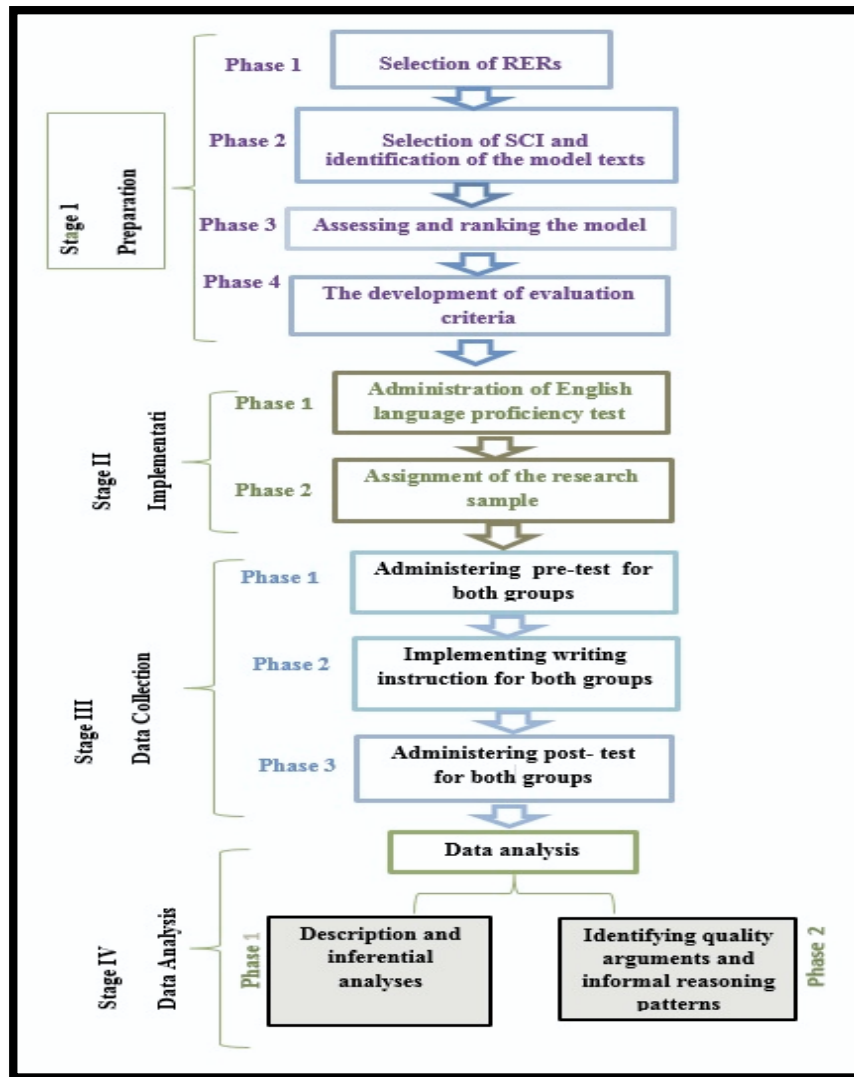


Figure 4.1: Research design

4.5.1 Preparation stage

Stage 1 consisted of four main phases: selection of Representative Educated Readers (RERs); selection of socio-scientific issue and identification of

model texts, assessing and ranking the model texts, and the development of writing assessment matrix.

Phase 1: Selection of Representative Educated Readers (RERs)

A team of eight English native-speaker Representative Educated Readers (RERs) were recruited from Humanities departments in four universities in Western Australia. Recruitment emails and flyers were sent to each department inviting academic members to participate in the study and providing them with information sheet (Appendix 1) to ensure that they were clear about the purpose of the study and what they were asked to do. The Humanities department was selected on the basis that lecturing staff from its disciplines were active members of an English-speaking academic community and were familiar with argumentation writing due to their ongoing assessment of student understanding. This expertise and competence in evaluating quality argumentative writing was contextually relevant. Upon their approval to take part in the study, the RERs were asked to fill in and sign a consent letter (Appendix 2).

Phase 2: Selection of socio-scientific issue and identification of model texts

A sample (8) of socio-scientific issue (SSI) model texts was selected to meet two criteria: diverse linguistic and rhetorical styles and inclusion of multiple perspectives on an issue. The texts selected encompassed as diverse a coupling of these two criteria as possible, allowing the RERs the opportunity to evaluate a wide variety of argumentative writing styles pertaining to the same issue.

The choice of SSIs as teaching materials to teach academic argumentation for the EFL students was influenced by the recognition that socio-scientific issues, such as genetically modified food, genetic engineering, same-sex marriage, pollution, abortion, and global warming, are topics of intense debate across the Islamic world. They have caused both ethical and religious controversies among Muslim theologians, scholars and communities. SSIs have become real-life, debatable, and meaningful topics that are inextricably related to the students' religious beliefs and wellbeing and, accordingly, provide meaningful and useful topics for them to write about. SSIs have the advantage of serving "as a pedagogical strategy with clearly defined goals" (Zeidler, Sadler, Simmons, & Howes, 2005, p. 360) with purposeful writing tasks and activities targeted at real audiences and with meaningful communicative purposes (Feez, 1998).

Familiarity with a topic has an effect on the quality and quantity of students' writing. Lee (2008) concluded that writing performance was greatly affected by task-related elements such as topic familiarity, difficulty, task-type, and subject matter of the prompt, which are perceived differently by each individual writer. Zamel (1982) maintained that students wrote "both quantitatively more and qualitatively better when they are composing papers about topics that engage them" and teachers should "provide them with a way into the topic" (p. 204). Likewise, it was argued that EFL students write better on topics where their background knowledge is "well-integrated" (Langer, 1984, p. 28) or relates to circumstances in which they are highly involved (Bridgeman & Carlson, 1984).

Both argumentation and inquiry, which are central characteristics of academic writing, are strongly represented in SSI topics, since the informal reasoning predominantly used in them involves skills and strategies in argumentation generation and evaluation (Means & Voss, 1996).

SSIs also have the advantage of creating ‘a life-learning culture’ encouraging students to be truth-seeking, open-minded, analytical, systematic, judicious, and increasingly confident in their reasoning (Zeidler & Nicholas, 2009) when arguing about social issues that impinge on their own immediate concerns and interests” (Prain, 2006, p. 190).

Phase 3: Assessing and ranking the model texts

The RERs were divided into four pairs. Two texts were assigned to each pair. The first RER read, holistically evaluated and ranked a text according to his/her perception of argumentation. The second RER, who did not see the score given, repeated the same procedures with the same text. Holistic assessment is often referred to as impressionistic qualitative judgement made by raters to agree on what specifically makes a piece of writing its overall quality (Weigle, 2002). The RERs used the “think aloud” technique (Emig, 1970; Flower & Hayes, 1981) to concurrently verbalise their thoughts about what made one text superior to the other one. The technique generated verbal protocols defined “as the data one gets by asking individuals to vocalize what is going through their minds as they are solving a problem or performing a task” (Gass & Mackey, 2000, p.13).

Phase 4: The development of writing assessment matrix

The 16 verbal protocols (transcripts) collected from the above phase were analysed, guided by the theory-based qualitative inductive method of analysis. The researcher identified provisional sets of recurring themes. The emerging themes were constantly revised and refined against the entire transcribed data and compared to each other to maximise their similarities and differences until a point of saturation was reached, in that no significantly new data would emerge and require changes in the thematic coding of categories. Closely conceptually linked sub- themes were collapsed into superordinated thematic categories. Each key theme had a chart with its sub-theme entries (Strauss & Corbin, 1990). These superordinate categories represented the evaluative criteria of good argumentative writing and the sub-themes represented the qualifying descriptors. The evaluative criteria were collapsed into a set of four together with their qualifying descriptors which were a sufficiently rich description of the salient and distinctive qualities that aligned with particular writing criteria to determine the extent to which a given criterion was met. Descriptors were put into a manageable number of carefully worded sentences and phrases. (Moskal & Leydens, 2000).

An assessment writing matrix was developed consisting of four criteria: organisation, content, vocabulary and language use and mechanics (Appendix 7) with each one having four rating levels of: Proficient, Acceptable, Adequate and No evidence. Each criterion has a set of well-defined descriptors against which the participants' pre- and post-test written scripts would be evaluated and ranked by the RERs. The rationale behind the use of four-point scale is based on the contention that it is more practical

in terms of its reliability, sensitivity and applicability (McColloy & Remsted, 1965, cited in Nimehchisalem, 2010, p.241). In addition, it is generally considered advantageous to have fewer achievement standards with meaningful and clearly defined distinctions to give the desired precision to discern between them (Moskal, 2000, cited in Stellmack, Konheim-Kalkstein, Manor, Massey& Schmitz, 2009, p.104). In addition, as pointed out by Hamp-Lyons and Henning (1991), “Essay scoring is a complex cognitive task and the combination of multiple traits with a very long scale puts a heavy cognitive burden on raters” (p. 364).

The criteria developed by the resultant writing matrix along with their descriptors are closely aligned with those described in Jacobs, Zinkgraf, Wormuth, Hartfiel and Hughley’s (1981) Composition Profile. The only difference between them is that the resultant matrix collapses ‘language use’ criterion and ‘mechanics criterion’ into one criterion. This suggests that the resultant matrix is validated by the Jacobs et al. (1981) Profile. Such profile has been successfully used in evaluating the essay writing proficiency levels in ESL/EFL programs since it has highest content validity since it sets out to truly measure and evaluate differences in ESL students’ performance levels in the core aspects that the teacher expects to see in their argumentative writing tasks and assignments they are required to perform in their academic milieu (Bacha, 2001). As Weigle (2002) noted, the Profile is “the best known and most widely used analytic scales in ESL adopted by numerous college-level writing programs” (p. 115).

The use of this matrix, as a regulatory rating tool, has the positive advantage of minimising the teacher’s subjective assessment and safeguarding the

reliability of scoring leading to more reliable and objective assessment compared to cases where no scoring rubric is used (Weir, 2005; Spandel, 2006).

Establishing reliability and validity of the assessment matrix

Several measures were taken to ensure that the assessment instrument elicits evidence that was appropriate to provide reliable and valid inferences of the results of the students' pre-and post -test written essays based on the criteria the instrument was intended to measure:

- A copy of the matrix was e-mailed to each of the 8 RERs for validation. The researcher checked back with them to ensure that all the criteria, together with their descriptors, accurately represented their verbal data. The final constructs of the rubric reflected those agreed upon.
- To maximize the consistency and accuracy (inter-rater reliability) of the ranking mechanism and to enhance the extent to which the ranking accurately reflected the underlying writing criteria (validity), the RERs placed emphasis on the criteria in the matrix.
- The RERs were instructed to assess and rank 16 randomly selected essays independently of one another and results were analysed to establish how consistently the RERs applied the rubric. Total and adjacent levels of agreement among the raters were high. The RERs used the ranked essays as benchmarks in assessing all remaining essays. Every essay was assessed and ranked by two different RERs, working independently. If the two

RERs disagreed in their rankings, a third rater was brought in to adjudicate the dispute.

4.5.2 Implementation stage

The implementation of this stage consisted of two phases: administering English proficiency test to the cohort of the EFL third year students, and the assignment of the research sample into two comparable groups.

Phase 1: Administering English language proficiency test

In Iraq, admission to an undergraduate degree program is based on the grades obtained in the externally moderated Baccalaureate examination (the pass mark for each subject is set at 50). Satisfying the minimum admission requirements to other undergraduate programs does not guarantee acceptance into the EFL program, which is in high demand. Therefore, admission is selective and competitive, coupling Baccalaureate scores with marks achieved in the English examination.

The students had comparable English proficiency levels prior to the commencement of this study although, as admission to the EFL program had taken place two years previously, these levels could not be substantiated as students can develop new skills and abilities in English and thus, they can change during this period. A standardised English language testing instrument was therefore needed to assess their current English competence. The Oxford Placement Test (OPT) (Allan, 2004) was chosen. It is believed to be most suitable in the context of this study as it would help the researcher achieve two-fold sought-after purposes. First, to broadly identify and assess variations across students in terms of their existing initial levels

of EFL competencies. Second, as its name suggests, to place them into relatively comparable proficiency groups.

The OPT format includes multiple task types. It consists of listening (100 items) and grammar (100 items) sections. The listening test is primarily a test of reading and listening skills, in which the learner's performance is dependent on the students' knowledge of the sound and writing systems of English. The items are derived from theme-based authentic conversations involving native and non-native speakers of English. Buck (2001) called this type of test a phonemic discrimination task in which the test-takers' task is to distinguish two words which differ by one phoneme. The grammar section is a multiple-choice task (Purpura, 2004). The structures tested are contextualized or thematically oriented.

The scoring of Oxford Placement Test is based on the number of items answered correctly by the students. Each correct answer contributes to the overall score and thus to the general assessment of the student's overall linguistic competence in comparison to one another.

Phase 2: Assignment of the research sample

The third year students were the targeted population of this study. They were enrolled in a four-year long course leading for a B.A degree in English Language and Literature were the targeted population. Only 92 students out of 180 ones were interested to take part in the project. The participants were randomly assigned into two comparable (non-intervention and intervention) groups before initiating the new writing intervention approach. The assignment process was carried out using two types of sampling techniques: First, stratified sampling was applied. According to Swanson and Holton

(2005, p.53), “Stratified sampling techniques generally are used when the population is heterogeneous, or dissimilar, where certain homogeneous, or similar, subpopulations can be isolated”. It was implemented on the basis of the scores the participants achieved in the OPT to which the ranking system used by Iraqi universities was applied: Failure (0%-49%); Weak (50%-59%); Pass (60%-69%); Good (70%-79%); Very Good (80%-89%) and Excellent (90%-100%).

Accordingly, using the SPSS software, four relatively internally homogeneous strata were created. The second sampling technique was applied in each stratum. This sampling technique randomly assigned the participants to either the intervention or non-intervention group. Participants were representative of the research population from whom they were drawn in that they were similar in age, gender and English proficiency. The size of each group differed: 41 students constituted the intervention group and 51 ones made up the non-intervention group.

These comparable groups enabled the researcher to compare between them to investigate whether the implementation of the modified integrated process-genre model (MIM) had any influence on developing their writing competence and facilitating promoting their critical thinking capacities.

4.5.3 Data collection stage

Data gathering started on the second term of the academic year (2012-2013). The stage was implemented through three phases (Figure 4.1).

Phase 1: Administration of pre-test for both groups

Both groups were given a pre-test to assess their argumentation writing skills and the application of informal reasoning before the commencement of the intervention. Students agreed upon on the SSI-related topic “Genetically modified (GM) crops have been the subjects of numerous debates. Many arguments have been presented in support of and against the GM crops. What is your opinion?” suggested by the teacher (Appendix 11). They wrote an essay of 250-300 words, which is the standard length of essay in the national curriculum in Iraq. They were allowed 90 minutes- a time considered ample to complete the task of writing an essay (White, 1994). A number of procedures were applied: both groups sat the test at the same time and in the same place; participants were not allowed to talk to their peers, ask questions or use any external resources such as dictionaries or reading materials. On completion of the test, the essays were handed to the teacher. She kept them confidential in a password-protected cabinet at the College of Education at Al-Qadisiya University/ Iraq.

Phase 2: implementing writing instruction

Two different teaching modes were implemented over the full 12-week term; the non-intervention group received product-based instruction, currently adopted in the national curriculum in Iraq, in which writing teaching practices and activities (Appendix 10) were inspired and guided by the current textbook “Essays and Letters Writing” by L. G., Alexander (1965). The pedagogical focus of the non-intervention group was on:

- Drilling exemplar sentence patterns (Weeks 1, 2, 3 and 4)
- Common grammatical mistakes (weeks 5, 6 and 7).
- Functional components of a paragraph (Weeks 8 and 9).

- Functional components of an argumentative essay (Weeks 10 and 11).
- Writing an independent argumentative essay (Week12).

The intervention group received the MIM-based instruction (Appendices,8,9). Both groups were taught using the same teaching materials based on the same socio-scientific topic. To control for teacher bias, the groups were taught by the same teacher.

To ensure a successful implementation of the MIM, the selection of the teacher was based on a number of criteria:

- Capacity to meet the demands of the new writing intervention.
- Confidence to initiate and engage in productive reflective pedagogy drawing a variety of new writing classroom practices and strategies and resources.
- A positive perception and attitude towards new approaches in teaching academic in an EFL setting.
- Willingness to participate in the research project.

Prior to the implementation of the MIM, a training session (2 x 50 minutes per day for 5 days) was conducted with the participating teacher. It covered the recursive cognitive processes and strategies involved in writing, as identified in the Flower and Hayes' (1981) model, and the stages and moves underlying the deployment of academic argumentative text. Special attention was placed on defining the concept of scaffolding as a contingent teaching technique. The training session involved a joint text-construction

exercise and other strategies were introduced and practised to direct her instructional approach:

- Use of the bubble graphic organiser to generate and cluster ideas and thoughts.
- Application of Hyland's (1990) structural framework of the rhetorical stages of academic argumentative genre.
- Sadler and Zeidler's (2005a, p.127) analytic framework of the structural components of quality argument.
- Kuhn's (1991) criteria of quality arguments and the need for evidentiary grounds.
- The use of the quality writing matrix.

Phase 3: Administering post-test for both groups

After the twelve- week period of pedagogical intervention, a post-test was administered to the participants in both groups. Twenty participants from the non-intervention group did not meet the study requirements in that they did not sit the post-test, leaving 51 students. All 41 intervention group participants took part in the post-test, bringing the total number of the participants to 92. The students wrote on the same issue, with the same time limit, mirroring the pre-test conditions. Writing on the same topic-GM foods has- has the advantage of minimising variance in the participants' writing performance "there is no completely reliable basis for comparison of scores on a test unless all the students have performed the same writing task(s)" (Jacobs et al, 1981, p. 16). The participants' pre- and post-written assignments were the main instrument of data collection.

4.5.4 Data analysis stage

A total of 182 of the EFL students' pre- and post-test essays were the data collected in this study. They were de-identified and randomly sorted before being handed to the RERs to assess and rank them. To address the first subsidiary research question 1 (cited in Section 4.1), data analysis of quality criteria in the students' pre- and post-test essays consists of two phases:

Phase 1: Descriptive statistical analysis

A two-way frequency table will be computed to obtain the count of the incidence of each of the four writing criteria in the EFL students' pre-test essays in each group as assessed and ranked against the writing matrix (Appendix 7). The count of the frequency of writing criterion will be analysed using descriptive statistics for which the SPSS is used in order to determine the mean value (M) and standard deviation (SD) in both groups.

Phase 2: Inferential statistical analysis

The descriptive statistical results for the two groups will be analysed using inferential statistics for which an independent sample t-test is computed. This test is appropriate to compare two groups independent of each other on the same dependent variable (the dependent variable would be "third year students" and the independent variable would be the two modes of instruction". The purpose of implementing the test is to provide two-tailed significance value (p) with a p value < 0.05 is set as significant to allow to draw inferences to determine whether the two-point differences in mean scores are statistically significant prior to the implementation of the new intervention. The same procedure is applied with the students' post-test essays. The purpose is to determine whether there are statistically significant

differences in mean scores between the intervention group in comparison to the non-intervention group as a result of implementing the MIM.

To address the second subsidiary research question, data analysis of the students pre- and post-test essays consists of two phases:

Phase 1: Identifying quality arguments

Sadler and Zeidler's (2005a, p.127) analytic framework will be used to assess the structural quality of the students' arguments in their pre-and post-test essays. Such a framework proposes three criteria including: number of supportive arguments, number of counter-arguments, and rebuttals.

Examples from their essays will be selected.

Arguments will also be assessed on the basis of the Kuhn's (1991) criterion: students' ability to provide evidentiary grounds, the quality of which increases with the number of relevant reasoned elaborations and explanations they gather from multiple sources

Phase 2: Identifying informal reasoning patterns

In order to identify the informal reasoning patterns, the students demonstrate in their pre- and post-test essays, Sadler and Zeidler's (2005b, p.73) categorisation will be adopted:

- rationalistic informal reasoning described as reason-based considerations.
- emotive informal reasoning described care-based considerations.
- intuitive informal reasoning described considerations based on immediate reactions to the context of a scenario.

Examples from the students' pre-test essays will be selected to identify which of Sadler and Zeidler's patterns of informal reasoning are evident. The occurrences and percentages will be determined to identify whether there are any substantial differences between the groups. The same procedure will be applied in the students' post-test essays.

4.6 Ethical Considerations

Ethics is defined by Simons (1995, cited in Pring, 2000, p.142) as "the search for rules of conduct that enable us to operate defensibly in the political contexts in which we have to conduct educational research".

Chilisa (2005) asserts that research ethics "... include codes of conduct that are concerned with protection of the researched from physical, mental, and/or psychological harm...including anonymity of the researched and confidentiality of the responses". Cohen, Manion, and Morrison (2007, p. 58) state the necessity of ensuring that ethical considerations are considered: "whatever the specific nature of their work, social researchers must take into account the effects of the research on participants and act in such a way to preserve their dignity as human beings". For this study, ethical issues were carefully considered and followed up during the data collection.

Specific ethical issues addressed in the study include:

- RERs were invited to participate in the study through letters of invitation. The recruitment of RERs entailed gaining their informed consent; each person was given an information sheet (Appendix 3) that explained what they were invited to do and how to do it. It included the contact details of my supervisor and the Human Research Ethics Committee (Secretary) at Curtin University should they make

any complaint on ethical ground. Those who agreed to participate were required to fill out and sign consent forms (Appendix 4).

- The permission of the Head of the Department of English Language and Literature at the College of Education at Al-Qadisiya University to recruit a teacher to implement the new writing model was obtained prior to the commencement of the study. Two EFL writing teachers were approached, one of whom consented to be involved. Official permission to enter the site and to recruit the students was obtained from the College of Education Dean and the Head of the department.
- Student participants were recruited during a meeting with the whole third year cohort. At this meeting, the researcher explained the nature of the study. Information sheets were handed out to them (Appendix 3). Both Arabic and English versions of the sheets were distributed to ensure that the text was not ambiguous and thus lead to misunderstanding or misinterpretation on the part of the students. Students were made aware that their identities would be protected. Any additional questions students had were answered, in their mother tongue when necessary. Out of 180 students, 92 agreed to participate. Their formal approval was obtained through signed consent forms (Appendix 4).
- In order to comply with the requirements in relation to the storage of the data and any other personal information, data were securely stored in password-protected computer files to which there was no access other than by the researcher and supervisors. It will be held for a

period of five years by the School of Education, Curtin University, Western Australia.

4.7 Summary of the Chapter

The epistemological stance of this study is constructivism, characterised by its emphasis on the interactive nature of knowledge construction, acquisition and transmission. Methodologically, the study is interpretive. The research applied the principles of mixed method research methodology. An Exploratory Sequential Design was adopted.

The data collection and analysis of students' pre- and post-test essays were undertaken in four major stages including preparation, implementation, data collection and data analysis. Descriptive and inferential analyses of each incidence of the four writing criteria and their sub-categories was undertaken to address the first research question.

Sadler and Zeidler's (2005a, p.127) analytic framework is used to identify the structural components of the students' arguments of both groups in their pre-and post-test essays. Their arguments are also assessed on the basis of the Kuhn's (1991) criterion in terms of the quality evidence provided to support their assertions.

To identify the patterns of informal reasoning the students displayed when negotiating and resolving the issue of GM foods, Sadler and Zeidler (2005b) categorisation was adopted. Finally, an account of ethical concerns relevant to the study is provided.

CHAPTER 5:

FINDINGS

5.0 Introduction

This chapter reports on the analyses of the data collected from the pre- and post-test essays of the EFL students. The chapter falls into two main sections: the first provides the results of the qualitative and quantitative analyses of student essays with respect to the demonstration of writing quality criteria and the second section contains an analysis of extracts from the pre- and post-test essays of both groups to illustrate the extent to which quality arguments and informal reasoning were evident.

5.1 Findings Related to the First Subsidiary Research Question

Subsidiary Research Question 1: To what extent does the implementation of the MIM to teach writing improve the quality of the students' academic writing?

5.1.1 Pre-test performance

In their pre-test, the students from both the non-intervention and the intervention groups wrote an essay (200-250 words) on the topic “*Given that genetically modified (GM) food attracts debatable perspectives, what is your view?*” Each essay was assessed by the RERs against the quality writing matrix developed from their verbal protocols. The matrix consists of four writing criteria - organisation, content, vocabulary, language use and mechanics with additional analysis of their sub-categories together with their descriptors. The incidence of the criteria in the pre- and post-test essays for both groups was determined. The aim was to determine whether

there were differences in the frequency of the criteria across the two groups.

The pre-test results obtained from both groups are summarised in Table 5.1.

Table 5.1: Pre-test: Number of students achieving writing quality criteria

Non-intervention group (N = 51)	No. of students	%	Intervention group (N = 41)	No. of students	%
1. Organisation			1. Organisation		
Introductory paragraph			Introductory paragraph		
<i>Proficient</i>	0		<i>Proficient</i>	0	
<i>Acceptable</i>	0		<i>Acceptable</i>	0	
<i>Inadequate</i>	25	49.0	<i>Inadequate</i>	20	48.8
<i>No evidence</i>	26	51.0	<i>No evidence</i>	21	51.2
Thesis development			Thesis development		
<i>Proficient</i>	0		<i>Proficient</i>	0	
<i>Acceptable</i>	0		<i>Acceptable</i>	0	
<i>Inadequate</i>	18	35.3	<i>Inadequate</i>	17	41.5
<i>No evidence</i>	33	64.7	<i>No evidence</i>	24	58.5
Body paragraph			Body paragraph		
<i>Proficient</i>	0		<i>Proficient</i>	0	
<i>Acceptable</i>	0		<i>Acceptable</i>	0	
<i>Inadequate</i>	22	43.1	<i>Inadequate</i>	19	46.3
<i>No evidence</i>	29	56.9	<i>No evidence</i>	22	53.7
Concluding paragraph			Concluding paragraph		
<i>Proficient</i>	0		<i>Proficient</i>	0	
<i>Acceptable</i>	0		<i>Acceptable</i>	0	
<i>Inadequate</i>	25	49.0	<i>Inadequate</i>	20	48.8
<i>No evidence</i>	26	51.0	<i>No evidence</i>	21	51.2
2. Content			2. Content		
<i>Proficient</i>	0		<i>Proficient</i>	0	
<i>Acceptable</i>	0		<i>Acceptable</i>	0	
<i>Inadequate</i>	28	54.9	<i>Inadequate</i>	24	58.5
<i>No evidence</i>	23	45.1	<i>No evidence</i>	17	41.5
3. Vocabulary			3. Vocabulary		
<i>Proficient</i>	0		<i>Proficient</i>	0	
<i>Acceptable</i>	0		<i>Acceptable</i>	0	
<i>Inadequate</i>	29	56.9	<i>Inadequate</i>	27	65.9
<i>No evidence</i>	22	43.1	<i>No evidence</i>	14	34.1
4. Language use and mechanics			4. Language use and mechanics		
<i>Proficient</i>	0		<i>Proficient</i>	0	
<i>Acceptable</i>	0		<i>Acceptable</i>	0	
<i>Inadequate</i>	25	49.0	<i>Inadequate</i>	21	51.2
<i>No evidence</i>	26	51.0	<i>No evidence</i>	20	48.8

As illustrated in Table 5.1, no student demonstrated their ability to meet any of the criteria in the *Proficient* and *Acceptable* categories. All students performed poorly in the pre-test, being rated either as *Inadequate* or as providing *No evidence* of the criteria (or their sub-criteria). Figures 5.1 and 5.2 compare the frequencies of the occurrence of the writing criteria in both groups' pre-test essays.

Figure 5.1: Non-intervention group pre-test performance levels

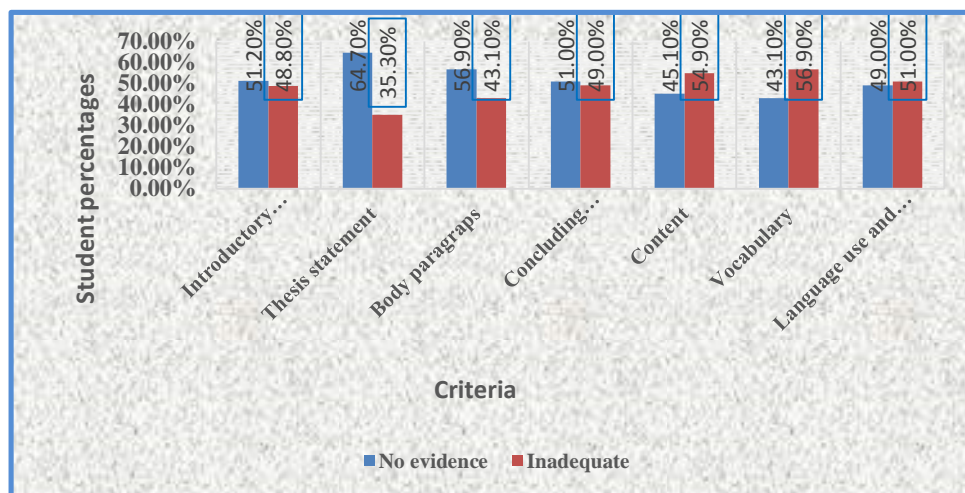
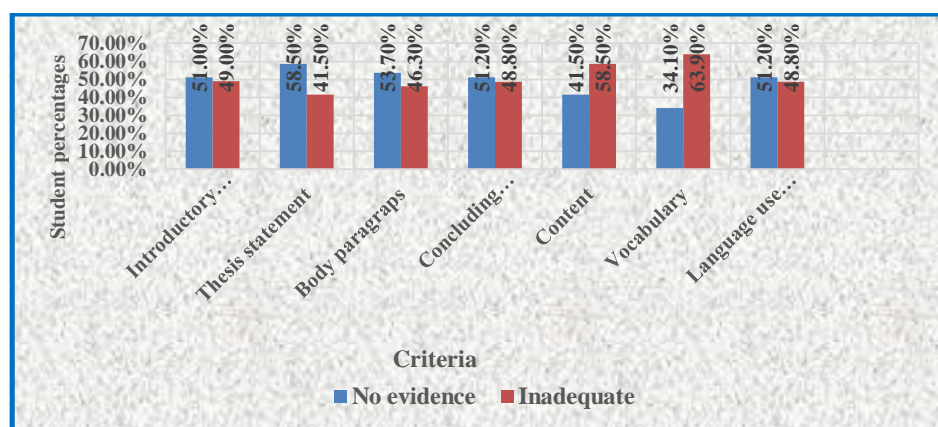


Figure 5.2: Intervention group pre-test performance levels



Introductory paragraph

Figures 5.1 and 5.2 show no meaningful differences between the students in the two groups in relation to achievement of the criteria in the Introductory paragraph. Half of the non-intervention students, 51.2% of whom showed no evidence of an introductory paragraph at all in their pre-test essay and 48.8 % inadequately presented one. This mirrored the writing of the intervention group, 51.0% of whom showed no evidence of an introductory paragraph, while 49.0% wrote an introductory paragraph that was inadequate. The two groups were deemed to have performed similarly on this measure.

Thesis statement

64.7% of the non-intervention students showed No evidence of a Thesis statement and 35.3% had a Thesis statement deemed Inadequate (Figure 5.1). The achievement in the intervention group was comparable, with 58.5% of the students showing No evidence and 41.5% presenting a Thesis statement that was Inadequate (Figure 5.2). Again, the two groups were deemed to have performed similarly on this measure.

Body paragraph construction

In the non-intervention group (Figure 5.1), 56.9% of students showed No evidence of building appropriate Body paragraphs and 43.1% had Body paragraph construction that was Inadequate. These outcomes are similar in the intervention group (Figure 5.2) in which 53.7% showed No evidence of body paragraphs and 46.3% presented Body paragraph construction that was

Inadequate. As above the two groups were deemed to have performed similarly on this measure.

Concluding paragraph

51.0% of the non-intervention students showed No evidence of an appropriate Concluding paragraph, while 49.0% of them wrote an Inadequate Concluding paragraph (Figure 5.1). This was replicated in the intervention group in which 51.2% of the students showed No evidence of a Concluding paragraph and 48.8% presented a paragraph that was Inadequate (Figure 5.2). Yet again the two groups were deemed to have performed similarly on this measure.

Content

Figure 5.1 shows that 45.1% of the non-intervention group students provided No evidence of appropriate Content, while 54.9% of them provided Inadequate Content. The results in the intervention group (Figure 5.2) were similar with 41.5% of the students showing No evidence of relevant Content and 58.5% presenting Content which was considered Inadequate. Similar to the above, the two groups were deemed to have performed similarly on this measure.

Vocabulary

As demonstrated in Figure 5.1, 43.1% of the non-intervention group students showed No evidence of using appropriate Vocabulary and 56.9% of them used vocabulary that was Inadequate. The intervention group (Figure 5.2) performed better on this measure with only 34.1% showing No

evidence of adequate Vocabulary, while 65.9% demonstrated Inadequate use of Vocabulary.

Language use and mechanics

Half of the non-intervention group students (49.0%) showed No evidence of using appropriate Language and Mechanics and 51.0% demonstrated Inadequate use (Figure 5.1). 51.2% of the intervention group students showed No evidence of employing adequate language and mechanics and 48.8% presented Inadequate use (Figure 5.2). Therefore, the two groups performed similarly.

5.1.2 Descriptive statistical analysis on pre-test essays

The frequencies of the writing criteria in the students' pre-test essay were analysed using descriptive statistics. SPSS was used to determine the mean values (M) and standard deviation (SD) of each of the quality criteria as applied to both groups. The findings are reported in Table 5.2.

Table 5.2 Comparison of pre-test mean scores and standard deviation

	Group	N	Mean	Std. Deviation	Std. Error Mean
Introductory paragraph	non-intervention group	51	1.49	.505	.071
	intervention group	41	1.49	.506	.079
Thesis development	non-intervention group	51	1.35	.483	.068
	intervention group	41	1.41	.499	.078
Body paragraph construction	non-intervention group	51	1.43	.500	.070
	intervention group	41	1.46	.505	.079
Concluding paragraph	non-intervention group	51	1.49	.505	.071
	Treatment group	41	1.49	.506	.079
Content	non-intervention group	51	1.55	.503	.070
	intervention group	41	1.59	.499	.078
Vocabulary	non-intervention group	51	1.57	.500	.070
	Treatment group	41	1.66	.480	.075
Language use and mechanics	Non-intervention group	51	1.49	.505	.071
	intervention group	41	1.51	.506	.079

It is evident from Table 5.2 that the students in the intervention group and the non-intervention group had a comparable level of English writing

competence before the commencement of the intervention. The measures of central tendency and dispersion used to compare the pre-test results are closely aligned in both groups: The mean scores and standard deviations are identical in *Introductory paragraph* (Mean=1.49 and SD=.505 in the non-intervention group, Mean=1.49 and SD= .506 in the other group), and in *Concluding paragraph* (Mean=1.49, SD=.505 in the non-intervention group and Mean=1.49 and SD= .506 in the other group). The *Vocabulary* and *Thesis statement* show the greatest variation in the mean gains and standard deviations. In terms of *Vocabulary*, the results are: (Mean=1.57, SD=.500 in the non-intervention group and Mean =1.66, SD =.480 for the intervention group). With regard to the *Thesis statement*, the results are: (Mean=1.35, SD=.483 in the non-intervention group and Mean=1.41, SD=.499 in the intervention group). The mean scores and standard deviations are close in all the other criteria.

5.1.3 Inferential statistical analysis of pre-test

The differences between the mean gain values of the pre-test of both groups were computed using inferential statistics for which an independent sample t-test was employed. A two-tailed significance value (p) with a p-value < 0.05 was set as significant. The purpose of the t-test was to compare the mean scores of the students' writing achievements and to compare and determine whether the two-point differences in mean scores of a certain group were statistically significant in comparison to the other group. Table 5.3 reports the findings of the test.

Table 5.3: Independent samples t-test on pre-test results

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	95% Confidence Interval of the Difference	
									Lower	Upper
Introductory paragraph	Equal variances assumed	.002	.964	.023	90	.982	.002	.106	-.208	.213
	Equal variances not assumed			.023	85.718	.982	.002	.106	-.208	.213
Thesis statement	Equal variances assumed	1.296	.258	-.600	90	.550	-.062	.103	-.266	.142
	Equal variances not assumed			-.598	84.555	.551	-.062	.103	-.267	.143
Body paragraph construction	Equal variances assumed	.320	.573	-.304	90	.762	-.032	.105	-.241	.177
	Equal variances not assumed			-.304	85.464	.762	-.032	.105	-.242	.178
Concluding paragraph	Equal variances assumed	.002	.964	.023	90	.982	.002	.106	-.208	.213
	Equal variances not assumed			.023	85.718	.982	.002	.106	-.208	.213
Content	Equal variances assumed	.474	.493	-.346	90	.730	-.036	.105	-.245	.172
	Equal variances not assumed			-.346	86.070	.730	-.036	.105	-.245	.172
Vocabulary	Equal variances assumed	2.936	.090	-.872	90	.385	-.090	.103	-.295	.115
	Equal variances not assumed			-.876	87.169	.383	-.090	.103	-.294	.114
Language use and mechanics	Equal variances assumed	.002	.964	-.208	90	.836	-.022	.106	-.233	.189
	Equal variances not assumed			-.207	85.718	.836	-.022	.106	-.233	.189

In Table 5.3, the t-test shows that the p-value was greater than the standard cut-off of < 0.05 . For example, the results reveal the following: Introductory paragraph [$t (0.023, p = .982 > 0.05)$]; Thesis statement [$t (0.600, p = .550 > 0.05)$]; Body paragraph construction [$t (0.304, p = .762 > 0.05)$]; Concluding paragraph [$t (0.023, p = .982 > 0.05)$]; Content [$t (0.346, p = .730 > 0.05)$]; Vocabulary [$t (0.872, p = .385 > 0.05)$]; Language Use and Mechanics [$t (0.208, p = .836 > 0.05)$]. Therefore, there are no statistically significant differences on the mean scores of students' writing achievement across the two groups on the quality writing criteria. in the pre-test

5.1.4 Post-test performance

The students' post-test essays (from both groups) were assessed by the same RERs against the same criteria as in the pre-test. The frequency of the four writing quality criteria was counted. The aim was to determine whether there were differences in the frequencies across the two groups. The results are summarised in Table 5.4.

Table 5.4: Post-test: Number of students achieving writing quality criteria

Non-intervention group (N = 51)	No. of students	%	Intervention group (N = 41)	No. of students	%
1. Organisation			1. Organisation		
Introductory paragraph			Introductory paragraph		
<i>Proficient</i>	0		<i>Proficient</i>	0	
<i>Acceptable</i>	0		<i>Acceptable</i>	8	19.5
<i>Inadequate</i>	27	52.9	<i>Inadequate</i>	19	46.3
<i>No evidence</i>	24	47.1	<i>No evidence</i>	14	34.2
Thesis development			Thesis development		
<i>Proficient</i>	0		<i>Proficient</i>	0	
<i>Acceptable</i>	0		<i>Acceptable</i>	9	22.0
<i>Inadequate</i>	26	51.0	<i>Inadequate</i>	18	43.9
<i>No evidence</i>	25	49.0	<i>No evidence</i>	14	34.1
Body paragraph			Body paragraph		
<i>Proficient</i>	0		<i>Proficient</i>	0	
<i>Acceptable</i>	0		<i>Acceptable</i>	8	19.5
<i>Inadequate</i>	29	56.9	<i>Inadequate</i>	19	46.3
<i>No evidence</i>	22	43.1	<i>No evidence</i>	14	34.2
Concluding paragraph			Concluding paragraph		
<i>Proficient</i>	0		<i>Proficient</i>	0	
<i>Acceptable</i>	0		<i>Acceptable</i>	8	19.5
<i>Inadequate</i>	18	35.3	<i>Inadequate</i>	18	43.9
<i>No evidence</i>	33	64.7	<i>No evidence</i>	15	36.6
2. Content			2. Content		
<i>Proficient</i>	0		<i>Proficient</i>	0	
<i>Acceptable</i>	0		<i>Acceptable</i>	10	24.4
<i>Inadequate</i>	28	54.9	<i>Inadequate</i>	17	41.5
<i>No evidence</i>	23	45.1	<i>No evidence</i>	14	34.1
3. Vocabulary			3. Vocabulary		
<i>Proficient</i>	0		<i>Proficient</i>	0	
<i>Acceptable</i>	0		<i>Acceptable</i>	11	26.8
<i>Inadequate</i>	27	52.9	<i>Inadequate</i>	19	46.4
<i>No evidence</i>	24	47.1	<i>No evidence</i>	11	26.8
4. Language use and mechanics			4. Language use and mechanics		
<i>Proficient</i>	0		<i>Proficient</i>	0	
<i>Acceptable</i>	0		<i>Acceptable</i>	9	22.0
<i>Inadequate</i>	26	51.0	<i>Inadequate</i>	21	51.2
<i>No evidence</i>	25	49.0	<i>No evidence</i>	11	26.8

The post-test data revealed some differences between the intervention students' performance levels and those of their peers in the non-intervention group on the four main writing quality criteria and the sub-criteria, with a number of intervention students able to achieve an Acceptable rating in the four criteria and their sub-criteria. No student in the non-intervention group was able to achieve this rating. Figures 5.3 and 5.4 compare the frequency of occurrence of the writing quality criteria.

Figure 5.3: Non-intervention group post-test performance levels

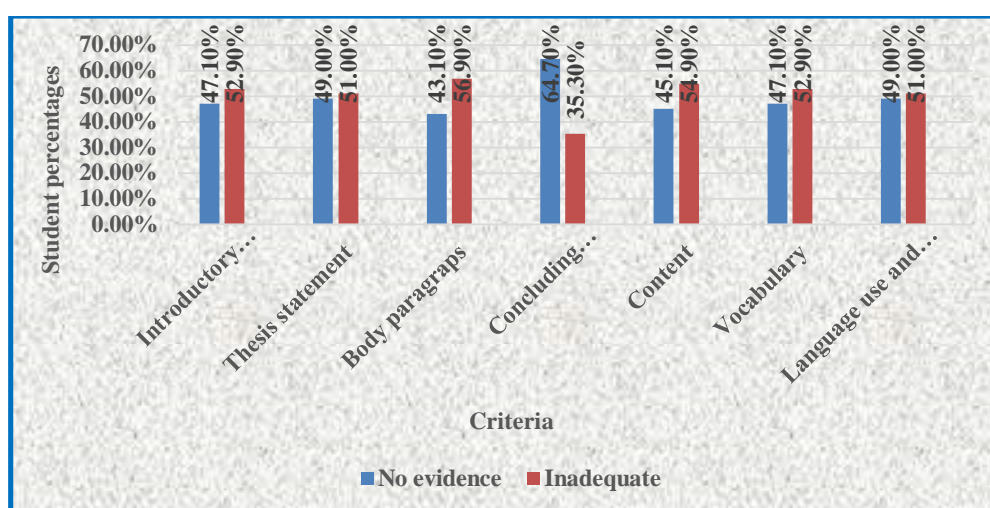
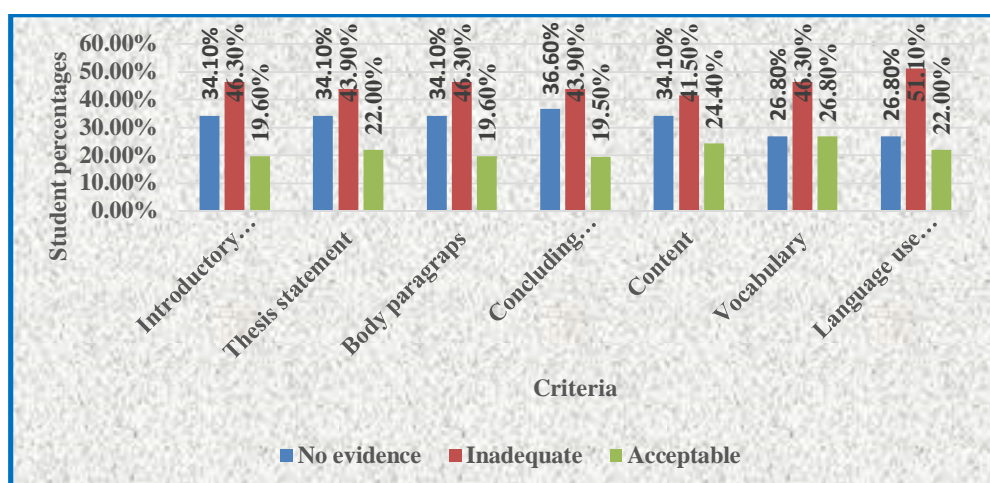


Figure 5.4: Intervention group post-test performance levels



Introductory paragraph

47.1% of the non-intervention group students showed No evidence of an Introductory paragraph and 52.9% of them had an Inadequate Introductory paragraph. By comparison, only 34.1% of the intervention group showed No evidence of an Introductory paragraph and 46.3% had a paragraph that was Inadequate. Notably 19.6% had an introductory paragraph of Acceptable

Thesis statement

Nearly half (49.0%) of the non-intervention students showed No evidence of an adequate Thesis statement, while 35.3% had a Thesis statement that was deemed Inadequate (Figure 5.3). Compared with the pre-test, there were fewer students (34.1%) in the intervention group who showed No evidence of a Thesis statement, with 43.9% presenting an Inadequate Thesis statement. In the post test, however, some 22.0% had an Acceptable Thesis statement (Figure 5.4)

Body paragraph construction

43.1% of the non-intervention students showed No evidence of Body paragraphs and 56.9% had Body paragraph construction that was Inadequate (see Figure 5.3). By comparison, only 34.1% of the intervention group students showed No evidence of Body paragraph construction, while 46.3% had Inadequate and 19.6% had Acceptable Body paragraph construction (see Figure 5.4)

Concluding paragraph

Figure 5.3 illustrates that 64.7% of the non-intervention students showed No evidence of a Concluding paragraph, and 35.3% of them wrote Inadequate

conclusions. However, in Figure 5.4, only 36.6% of the intervention group show No evidence of a Concluding paragraph, 43.9% presented Inadequate conclusions and 19.5% now wrote an Acceptable Concluding paragraph.

Content

Figure 5.3 illustrates 45.1% of the non-intervention showing No evidence of relevant Content and 54.9% of them providing Inadequate Content. By comparison, 24.4% of the intervention group students (see Figure 5.4) presented Acceptable Content, 41.5% presented Inadequate Content and 34.1% showed No evidence of relevant

Vocabulary

Similarly Figure 5.3 shows little change in post test results for the non-intervention group with 47.1% showing No evidence of using appropriate Vocabulary and 52.9% had Inadequate Vocabulary usage. Figure 5.4 shows that only 26.8% of the intervention group students showed No evidence of using appropriate Vocabulary and 46.3% had Inadequate Vocabulary. Notably, 26.8% showed Acceptable use of Vocabulary.

Language use and mechanics

Of the non-intervention group students (see Figure 5.3), 49.0% showed No evidence of using appropriate Language and mechanics, while that of 51.0% was deemed Inadequate. By comparison, only 26.8% of the intervention group showed No evidence of appropriate Language and mechanics, 51.2% demonstrated Inadequate use, while 22.0% had acceptable use of Appropriate Language and mechanics (see Figure 5.4).

5.1.5 Descriptive statistical analysis on post-test essays

The frequency of the occurrence of each of the writing quality criteria in the post-test essays was computed using descriptive statistics. SPSS was used again to determine whether the mean values (M) and standard deviation (SD) of one group were statically significant in comparison to those in the other group. Table 5.5 reports the findings.

Table 5.5: Post-test mean scores and standard deviation

	Group	N	Mean	Std. Deviation	Std. Error Mean
Introductory paragraph	Non-intervention	51	1.53	.504	.071
	Intervention	41	1.85	.727	.113
Thesis development	Non-intervention	51	1.51	.505	.071
	Intervention	41	1.88	.748	.117
Body paragraph construction	Non-intervention	51	1.57	.500	.070
	Intervention	41	1.85	.727	.113
Concluding paragraph	Non-intervention	51	1.35	.483	.068
	Intervention	41	1.83	.738	.115
Content	Non-intervention	51	1.55	.503	.070
	Intervention	41	1.90	.768	.120
Vocabulary	Non-intervention	51	1.53	.504	.071
	Intervention	41	2.00	.742	.116
Language use and mechanics	Non-intervention	51	1.51	.505	.071
	Intervention	41	1.95	.705	.110

The measures of central tendency and dispersion used to compare the differences between the students' post-test mean values obtained on each of the writing quality criteria are higher across all criteria in the intervention group. With *Introductory paragraph*, the mean values and standard deviations are (Mean=1.53 and SD=.504) against (M=1.85 and SD=.727); *Thesis statement* (M=1.51 and SD=.505) against (M=1.88 and SD= .748); *Body paragraph construction* (M=1.57 and SD=.500) against (M=1.85and SD=.727); *Concluding paragraph* (M=1.35and SD=.483) against (M=1.83 and SD=.738); *Content* (M=1.55and SD=.503) against (M=1.90 and

SD=.768); *Vocabulary* (M=1.53 and SD=.504) against (M=2.00 and SD=.742) and *Language use and Mechanics* (M=1.51 and SD=.505) against (M=1.95 and .705). Comparisons between their mean scores shows noticeable differences in the values of each group, with the intervention group students achieving higher values than their counterparts in the non-intervention group.

5.1.6 Inferential statistical analysis on post-test results

The differences between the mean gain values of the post-test of both groups were calculated using an independent sample t-test. A two-tailed significance value (p) with a p-value < 0.05 was set as significant. The purpose of the t-test was to determine whether the students' differing writing achievements at the conclusion of the intervention were statistically significant.

Table 5.6: Post–test independent samples t-test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	95% Confidence Interval of the Difference	
									Lower	Upper
Introductory paragraph	Equal variances assumed	2.030	.158	-2.521	90	.013	-.324	.129	-.580	-.069
	Equal variances not assumed			-2.426	68.71	.018	-.324	.134	-.591	-.058
Thesis statement	Equal variances assumed	2.664	.106	2.810	90	.006	-.368	.131	-.629	-.108
	Equal variances not assumed			-2.696	67.420	.009	-.368	.137	-.641	-.096
Body paragraph construction	Equal variances assumed	2.353	.129	2.223	90	.029	-.285	.128	-.540	-.030
	Equal variances not assumed			-2.137	68.343	.036	-.285	.133	-.551	-.019
Concluding paragraph	Equal variances assumed	5.967	.017	-3.725	90	.000	-.476	.128	-.730	-.222
	Equal variances not assumed			3.564	65.974	.001	-.476	.134	-.743	-.209
Content	Equal variances assumed	3.677	.058	-2.655	90	.009	-.353	.133	-.618	-.089
	Equal variances not assumed			-2.541	66.003	.013	-.353	.139	-.631	-.076
Vocabulary	Equal variances assumed	.293	.589	-3.613	90	.000	-.471	.130	-.729	-.212
	Equal variances not assumed			-3.469	67.755	.001	-.471	.136	-.741	-.200
Language use and mechanics	Equal variances assumed	.025	.875	-3.494	90	.001	-.441	.126	-.692	-.190
	Equal variances not assumed			-3.372	70.206	.001	-.441	.131	-.702	-.180

Table 5.6 reports the findings of the test. It shows that some of the students from the intervention group made noticeable improvement in their writing competence in the post-test as assessed by the RERs against the same writing criteria used in their pre-test and in comparison to their counterparts in the non-intervention group: *Introductory paragraph* [t (2,521, p= .013 < 0.05]; *Thesis statement*[t (2.810, p=.006 < 0.05]; *Body paragraph construction* [t (2,223, p=.029< 0.05]; *Concluding paragraph* [t (3.564, p=.001 < 0.05]; *Content* [t (2.655, p=.009 < 0.05]; *Vocabulary* [t (3.613, p=.000 < 0.05]; and *Language Use and Mechanics* [t (3.494, p=.001<

0.05]. Differences were significant for all criteria between the two groups in the context of the post-test. Therefore, the two groups did not perform similarly at the conclusion of the intervention providing a positive response to Subsidiary Research Question 1: *To what extent does the implementation of a modified integrated process-genre approach (MIM) to teach writing can improve the quality of Iraqi undergraduate students' academic writing?*

5.2 Findings Related to the Second Subsidiary Research Question

Subsidiary Research Question 2: How important is the role of the MIM in improving students' reasoning as evidenced by their ability to demonstrate informal reasoning patterns and quality arguments to support the claims they put forward?

As an objective of this study was to investigate students' ability to provide quality arguments in support of the claims that they formulated, both structure-dominant and content-dominant analytical frameworks were used as the basis for assessing the quality of their argument. Structurally, Sadler and Zeidler's (2005a, p.127) analytic framework was used to assess the nature and extent of their arguments as a predictor of the overall writing quality in their pre- and post-test essays. It proposes three criteria for identifying the structural components that maintain the internal consistency of quality argument: that it generates supportive arguments (number of supportive arguments), that it reasons from the opposite position (number of counter-arguments), and that it constructs rebuttals (number of evidential issues and reasoning for why the alternative is not appropriate). On the basis of this framework, students were classified as 'high-achieving' or 'low-achieving'.

On the content level, the overall quality of argument is contingent on the writer's ability to spell out evidentiary grounds whose quality increases with the number of the relevant reasoned elaborations and explanations they gathered from multiple sources to substantiate the assertions they advocated (Kuhn, 1991) about the topic of GM foods. On the basis of this assessments, the quality of the students' arguments is judged

5.2.1 Pre-test argument quality

Only 16 students (31.3%) from the non-intervention group and 15 (36.5%) students from the intervention group demonstrated Sadler and Zeidler's three criteria when formulating arguments in their pre-test essays. There is no evidence of a significant difference between the students in the two groups. They both had a relatively low level of argumentative competence before the commencement of the intervention.

Non-intervention group

Nearly two thirds of the non-intervention students generated arguments but failed to adequately address the structural components of a quality argument. To be more specific, they did not meet one or more of Sadler and Zeidler's three criteria or demonstrate the minimal requirements of establishing credible evidence (Kuhn, 1991) in support of their claims about GM foods. An extract from the essay of student A exemplifies this tendency.

Student A (Non-intervention group)

GM food is very important because it gives a good meal for the human's body. Human beings should get the energy because it is very

important in our daily life and this energy, of course comes from the food especially from the sweet because it gives us energy to practise our life in a good way.

Student A introduced his pro-GM foods argument with the assertion that GM food “is very important”. He subsequently presented two supportive statements: ‘it gives a good meal’ and they provide the ‘energy’ needed for everyday activities. Seemingly, the sugars in GM food which provide energy supports the notion of GM foods providing a good meal, although the construction of the text does not make this obvious. Student A also considered GM foods from a single perspective, demonstrating no ability to debate the issue from a position that was inconsistent with his original view (i.e., a counter-argument), nor did he construct a rebuttal. The absence of one the three criteria of the quality argument was indicative of ‘low-achievement’, as characterised by Sadler and Zeidler’s analytical framework.

Another problem with the quality of Student A’s argument was that it lacked sound evidentiary grounds to support his standpoint. It was based on personal assumptions that were a reassertion of unsubstantiated commonly-held views. Further reasoning was needed to contribute to the strength of the evidence to justify the assertion why he preferred GM foods.

One third of students in the non-intervention group put forward arguments that showed the ability to attend to Sadler and Zeidler’s structural components, but were flawed, lacked persuasive effectiveness, and did not

provide the evidence needed to validate the positions taken. An extract from the essay of student B demonstrates these features.

Student B (Non-intervention group)

In my opinion, GM food has two sides. One is positive, the other is negative.

It can give the farmer time, save effort, and money. Also, pesticide is used less frequent. Also, GM foods can give better taste for the consumer. On the other hand, it has negative side. People who eat GM food feel upset against such food after they know that it involves inserting genes from animal into plants that they may hate. Also, other considered it as environmental disturbance.

Student B formulated four supportive arguments to substantiate her positive position on GM foods, citing their potential advantages: saving farmers' time, saving expense and effort, reducing the use of pesticides, and better tasting food. In developing her counter-argument, she formulated two arguments focussing on the disadvantages with consumer concern and 'environmental disturbance' as evidential grounds. Student B was classified as 'high reasoning' based on Sadler and Zeidler's three criteria. However, although Student B's argument was structurally acceptable, it failed to include a rebuttal supporting the value of either the positive or negative argument.

Another defect of both of her arguments was the absence of sufficient evidence to reason to justify the acceptance of the claims. They drew on data that could be recognised as explanatory rather argumentative. They

needed to be adequately elaborated with further substantiated details necessary to construct well-supported arguments.

Intervention group

In the pre-test, 15 students (36.5%) from the intervention group attempted to satisfy the structural components of a quality argument (i.e. they were able to meet Sadler and Zeidler's three criteria). However, the arguments they generated were unsound because they drew on personal experience to validate the position adopted. An extract from the essay of Student C illustrates this trend.

Student C (Intervention group)

In my opinion, this kind of food is not as good as the natural one because it does not have the taste of the natural one. It is true that genetic technology makes us eat some sort of food in different times of the year. But in spite of that I prefer the natural kind of food.

Student C established her claim against GM food by the assertion that it "is not as good as the natural one". As evidence to support it, she claims that: "it does not have the taste of the natural one". As a counter argument, Student C acknowledged that genetic technology has the advantage of overcoming seasonality. However, she was still classified as 'low-achieving' as she generated only one supportive argument, a single counter-argument and one rebuttal.

Another weakness of this argument was that its reasoning was unsound. It was built on personal assertions that had no bearing on developing the minimal requirements of convincing evidence and as a consequence it

influenced the strength and persuasive effectiveness of her argument.

Further reasoning was needed to justify why natural foods were preferred to GM foods.

Nearly two thirds (63.5%) of the students from the intervention group were able to formulate arguments in their pre-test essays, albeit poorly. Students most frequently failed to consider both sides of the argument by offering either an argument in favour, or against, or a rebuttal. The following extract from Student D illustrates these points.

Student D (Intervention group)

Genetically modified foods have advantages. There are many arguments presented in support of them. I think that GM food is a very good way to develop the country and prevent it from depending on other. It is a good way to spread all kinds of food in any country and the people cannot depend on which season they can get some kind of food or they cannot depend on trading from other countries. Some of poor countries used this technology to avoid poverty, while some other countries live in self-sufficiency which means they do not need other countries for some kind of food.

Student D generated three positive assertions about GM foods that served as evidence (development and self-sufficiency, overcoming seasonality, avoiding poverty). Student D focused on only one aspect of the issue without appreciating the opposing perspective, nor did she construct a necessary rebuttal. Failure to meet these two criteria for a quality argument was indicative of 'low-achievement'.

The student's three arguments in favour of the issue had their own drawback. She drew on propositions that made little contribution to offer compelling evidentiary grounds. They might be interpreted as an explanation of personal views that lacked sufficient information to reason to justify her assertions.

5.2.2 Post-test argument quality

Only 18 students (35.2%) from the non-intervention group included Sadler and Zeidler's three criteria when formulating their arguments in their post-test essays, whereas 25 (60.9%) students from the intervention group did so. This is a meaningful difference in achievement between the two groups.

Non-intervention group

In their post-test, nearly 33 students (64.8.2%) from the non-intervention group generated arguments, although they did not meet Sadler and Zeidler's structural criteria and failed to provide evidence to support their claims about GM foods. The following extracts from Students E and F illustrate these points.

Student E (Non-intervention group)

This kind of food is not healthy and may cause some diseases to the people. It attracts debatable perspectives. It is very important that this kind of food should only be allowed by the doctor to have in a correct way and in definite time. The people go to this kind of food when they feel that their bodies are very weak and they want to be strong.

Student E established his position against GM foods based on their potentially harmful health impacts: 'not healthy' and 'may cause some

diseases'. Student E failed to consider any counter argument although he acknowledged "debatable perspectives". His favoured argument was not countered by any consideration to the other side's potential arguments. Also, there is no rebuttal. Student E was classified as 'low-achieving'.

His reasoning was problematic. It was based on premises whose conceptual content was inconsistent 'This kind of food is not healthy and may cause some diseases' and 'people can go to this kind of food when they feel that their bodies are very weak and they want to be strong' and as a result these propositions interrupted and distorted the internal consistency of his argument. His reasoning also lacked substantiated elaborated details to justify the conditions under which the doctor allows people to have such 'unhealthy' foods' in a correct way and in definite time'.

Student F (Non-intervention group)

GM foods have the advantage and disadvantages. Firstly, this food helps human beings to take a variety of food to kill the routine of eating and also to discover new thing when one goes outside the country to discover what other people eat. On the other hand, it has disadvantage. Some people refuse to eat something strange or not fresh like in Islamic society. In this society people refuse to eat something new or unknown and they prefer to eat something fresh and new.

Student F introduced his pro-GM foods position by providing two supporting statements on their potential benefits: overcoming seasonality and providing variety in the diet. He expressed his counter-argument against GM foods with assertions that these foods are 'strange and not fresh' and

‘new or unknown’ in Muslim society. However, there is no evidence of any particular stance taken in a rebuttal and instead the student rephrases his single counter-argument, therefore Student F was classified as ‘low-achieving’.

The student’s favoured and counter arguments were defective. They lacked sufficient evidential to substantiate the truth of his personal opinions.

Further explanations were required to adequately justify why he accepted the claim that GM foods help overcoming seasonality and providing variety in the diet and what makes Muslims refrain from eating GM foods and prefer to have something fresh and new.

Intervention Group

In their post-test essays, the number of the students from the intervention group who demonstrated their ability to meet Sadler and Zeidler’s three criteria (ability to generate supportive arguments, reason from the opposite position; and construct rebuttals) and provided well-developed arguments to substantiate their position are 25 (N=41) (60.9%) students. Student G demonstrates his ability to meet these criteria.

Student G (Intervention group)

Student G established three arguments to back up her position in favour of GM foods. An advantage of GM foods is that they ‘resistance to pests’, ‘reduce the need for additional chemicals and other dangerous additive’ and ‘keeping environment and water resources clean’

An advantage of GM foods is that they are believed to have resistance to pests and thus reduce the need for additional chemicals and other

dangerous additive. This results in keeping environment and water resources clean.

In the following extract, the same student articulated her counter-argument to refute the other side's argument considering the disadvantages of GM food including the potentially devastating impact that might have on the ecosystem by narrowing or eliminating bio-diversity.

However, GM foods may influence bio-diversity. Changing a plant may cause it to be toxic to an insect or animal that eats it as its main food source. As a result, the change in a plant may have effects on other organism in the ecosystem.

Student G also considered the topic from an Islamic perspective. She made use of the values and beliefs espoused in the Quran (An-Nisa 4, p. 119) *that* human intervention in the environment is disruption of a divinely predestined order as evidence to further support her counter-argument.

She also evaluated GM foods from the audience's perspective. She considered their potential harm to human health to create empathy with the audience and to construct supportive evidence for her counter-argument against GM foods.

The biggest threat caused by genetically modified foods is that they can have harmful effects on human body. It is believed that consumption of the genetically engineered foods can cause the development of diseases which are immune to antibiotics.

In accordance with Sadler and Zeidler's three criteria, Student G was classified as 'high-achieving'. She complied with the three structural

components of a quality argument and was able to consider and refute a potential opposing position with ‘the biggest threat...’ Student G demonstrated that she is able to substantiate the claims against GM foods with well-explained objective and scientifically based arguments. This is evident in the appropriate use of vocabulary such as resistance, pesticides, biodiversity, ecosystem, and antibiotics.

In contrast to Student G, nearly 40% of students from the intervention group presented flawed arguments that failed to meet the Sadler and Zeidler’s three formal complements of quality argument and the formulation of adequate evidence. Student H is typical of this cluster of students.

Student H (Intervention group)

GM food is forbidden because Muslims regarded it as a play of creature and human cannot play in the creature of God. But it is Halal to use genetically modified foods when there is nothing found to eat.

Student H presented his claim against GM foods by claiming that they are an alteration of God’s created order. Student H did not however provide a counter-argument, nor a rebuttal. Student H was classified as ‘low-achieving’, assessed against Sadler and Zeidler’s three criteria.

The student’s argument suffered from unsound reasoning. Supplementary information was required to provide sufficient evidentiary grounds to support the claim why GM food is a ‘play of creature’. Also, there is a direction contradiction to his initial argument against GM food being forbidden by Islam.

5.3 Types of Informal Reasoning Pattern

As formal reasoning, informal reasoning is also recognised as a rational process that evolves to serve the persuasive end of an essay. It is involved in negotiating and resolving ill-structured and ill-defined problems that lack a clear-cut solution. The basis of informal reasoning is the ability to generate and evaluate a position through argumentation in response to complex issues with moral, social and political implications and concerns that have impact on students' lives (Mean & Voss, 1996; Sadler, 2004; Sadler & Donnelly, 2006).

The second subsidiary research question: *How important is the role of the MIM in improving students' reasoning as evidenced by their ability to demonstrate informal reasoning patterns and quality arguments to support the claims they put forward?* aims to examine the extent to which the implementation of the MIM impacted developing and fostering the students' critical thinking skills integrated into their individual religious beliefs, ethical, political, social and environmental concerns to put forward their informal reasoning patterns and arguments in order to reach a reasonable judgment about such a controversial issue when resolving it.

In order to determine whether informal reasoning skills were developed over the course of instruction, the informal reasoning patterns that students used to support and/or provide evidence for a claim was examined using Sadler and Zeidler's (2005b, p.73) classification scheme of informal reasoning patterns:

- Rationalistic (R) informal reasoning encompasses reason and logic based considerations

- Emotive (E) informal reasoning displayed a sense of care, empathy, sympathy, and concern towards the individuals who might be affected by the decisions.
- Intuitive (I) informal reasoning does not involve making empathetic or rationalistic implications; rather it describes considerations based on immediate reactions and feelings that influence how participants resolve the issue.

These categories do not always operate independently. Participants could engage in multiple patterns of informal reasoning integrated to argue for, and justify, multiple perspectives about GM foods. There exists therefore the possibility for three paired combinations: R/E, E/I, and R/I (Sadler & Zeidler, 2005a, p.124).

The quality of students' informal reasoning was assessed in terms of its coherence, internal consistency and the ability to perceive multiple perspectives (Kuhn, 1991, cited in Sadler & Zeidler, 2005b, p.73). Students displayed high quality informal reasoning when they wrote coherent arguments that supported their stated position and when they conceptualised the issue from diverse perspectives, while seeking to make a consistent decision to resolve the issue. Examples from the students' essays were selected to identify which of Sadler and Zeidler's patterns of informal reasoning were evident.

5.3.1 Pre-test informal reasoning patterns

Nearly two thirds of the students from the non-intervention and intervention groups formulated reasoning patterns in their pre-test essays. The informal

reasoning patterns displayed by students from both groups in their pre-test are summarised in Table 5.7.

Table 5.7: Pre-test patterns of informal reasoning

Non-intervention Group			Intervention Group		
Criteria	No. (N=51)	%	Criteria	No. (N=41)	%
Rationalistic	3	5.8%	Rationalistic	3	7.3%
Emotive	13	31.3%	Emotive	12	36.5%
Intuitive	N/E	0%	Intuitive	N/E	0%

In the pre-test essays of both groups emotive reasoning was the most common pattern used to support a claim. Table 5.7 shows that approximately one-third of essays - 31.3% and 36.5% in the non-intervention and intervention groups respectively displayed instances of such reasoning. Used to a far lesser extent was rationalistic reasoning (5.8% and 7.3% respectively), with no evidence at all of intuitive reasoning in either group.

Two examples that are indicative of the tendency towards emotive informal reasoning are presented below: Student I from the non-intervention group, and student J from the intervention group.

Student I (Non-intervention group)

Good food is what people prefer. Some prefer food from plants to the animal because they do not trust in animal and another reason may be because it is dirty and the people who sell it are careless about its cleanliness. I prefer plants because I can wash it and make it clean.

They also make me slim. I love being slim because it gives beauty and saves me from being ill. Other people prefer food from animals, it is up to them and those people are common in other countries. Such food brings them fatness and heart disease because they do not care about their health since they do not care about the result of this kind of food.

Student I fails to mention the use of GM foods. Instead this student provides arguments for and against vegetarianism. The initial argument against eating meat is supported by a distrust in the cleanliness of meat compared with vegetables which can be washed. The second argument relates to health in that eating vegetables reduces weight gain while meat causes obesity and heart disease. Rebuttal occurs in the form of emotive personalised statements regarding the preparation of one's own vegetables and the beauty that results from eating them. Student I's informal reasoning is emotive given the use of vocabulary such as "dirty", "careless", "love", etc.

Student J (Intervention group)

This GM food has many advantages. This food can solve many problems in the World and help many people who lived poverty. Some countries cannot plant all kind of food products, so they try to develop those kinds of foods by adding some sort of things, for example, nitrogen and salts, which help develop these foods. These things help develop the kind of food by giving the earth what it needs from salts and other things to grow different kinds of food.

Student J's attempt to provide a justification for GM foods is deficient as it is based on an incorrect understanding genetic modification. Student J's

argumentation is emotive in that it seeks to improve the lot of people living in poverty.

However, both emotive and rationalistic reasoning is represented by two further extracts from Student K (non-intervention group) and Student L (intervention group).

Student K (Non-intervention group)

With the increasing population of the world, there is an increasing need for food. One of the advantages of GM foods is to help people with hunger that most of them suffer from in third world countries. They also help farmers solve many of the problem they have in farming.

While Student K considered GM foods from the perspective of human benefit, focussing on the potential advantages to humans, the reasoning is emotive as in “help people with hunger” and “most of them suffer”. However, the reasoning is also rationalistic in that it contains the logic based consideration of the increasing world population and the benefits for farming.

Student L (Intervention group)

Genetically modified food is important for poor people in third world countries where there is high population living on barren land. GM foods have the advantage of helping buy foods at lower prices in order to help them survive.

Student L also dealt with GM foods from a human-benefit perspective using emotive reasoning: the well-being of poor people. Rationalistic reasoning is

also evident in the improvement of the living conditions of a ‘high population living on barren land’ in that GM can provide less expensive food to these populations.

5.3.2 Post-test informal reasoning patterns

The data summarised in Table 5.8 shows the informal reasoning patterns demonstrated by students in their post-test essays. It reveals obvious differences between the two groups in the incidence of rationalistic reasoning, and a minimal difference in the use of emotive reasoning patterns. Approximately a quarter of intervention students (21.9%) demonstrated informal rationalistic reasoning and nearly a half (41.4%) showed emotive reasoning. By comparison, only a third of students (31.3%) from the non-intervention group students used informal emotive reasoning and only 4 students (7.8%) were able to demonstrate rationalistic reasoning. No student from either group demonstrated intuitive reasoning in their essays.

Table 5.8: Post-test patterns of informal reasoning

Non-intervention Group			Intervention Group		
Criteria	No. (N=51)	%	Criteria	No. (N=41)	%
Rationalistic	4	7.8 %	Rationalistic/Emotive	9	21.9%
Emotive	16	31.3 %	Emotive	17	41.4%
Intuitive	N/E	0%	Intuitive	N/E	0%

Non-intervention group

Two exemplars from the essays of the non-intervention group showing

Student M (Non- intervention group)

Genetic modification technology faces an ethical consideration. The natural world should not be changed. It should not be determined by mankind. It is the realm of the divine and part of God's plan and should remain so.

Student M based her argument regarding genetic modification on an “ethical consideration”. She then formulated two informal reasoning patterns; one is rationalistic and the other emotive to defend her decision. Altering the ‘natural world’ constitutes rationalistic reasoning, while the view that genetic modification is an infringement of Allah's command is emotive informal reasoning.

Student N (Non-intervention group)

Genetically modified food faces rejection in Islamic communities. It contains a mixture of elements from dead bodies of animals and plants. But, I think it is not good to the health. I think it causes damage for the creatures. This food is good but just to the countries which have no foods.

Student N introduced her reasoning against GM food with a focus on issues important to Islamic communities. Emotive reasoning is used in referring to food that contains ‘elements from dead bodies’ and ‘causes damage’. Informal rationalistic reasoning is evident to the claim that GM foods are better than no food at all.

Intervention group

Nearly one third of the intervention group students formulated a combination of rationalistic and emotive reasoning patterns in their post-test essays.

Student O (Intervention group)

Proponents of GM foods claim that they have their own advantages. The world population expected to be 1.2 billion in the next 50 years. Genetic engineering can make it possible to produce sufficient foods. Thus, GM foods can be solution to feed the increasing population in the world.

Student O's informal rationalistic reasoning addresses the expansion of the world's population and the benefits of GM foods in providing for this increase. Further informal rationalistic reasoning is evident in the following.

However, the allergic reaction to the gene that is being transferred to the crop can cause serious health risks in the human body. For example, the use of a nut protein to enhance the protein content of a cereal may be a hazard to people who are allergic to nuts.

However, an emotive, justice-based perspective also occurs in Student O's essay with reference to hunger, unfair food distribution and starvation.

The world produces massive amounts of food. Here are hungry people because the food is not distributed to them in a fair way. Foods are under the control of the rich countries for political and profit-making purpose and poor people starve.

Student O showed the ability to display multiple informal reasoning patterns to substantiate his arguments and to liven concern among his readers.

5.4 Summary of the Chapter

This chapter presents data designed to address the two subsidiary research questions of this study. With regard to the first research question. Table 5.10, had the data to show that there is evidence to suggest that some of the students from the intervention group performed significantly better in the post-test overall scores which contrasted markedly with the similar performances of the two groups in the pre-test as assessed by the RERs across all the writing criteria used in their pre-test. According to the statics of the independent samples t-test (Table 5.10), the p-value is less than the standard cut-off of 0.05. Introductory paragraph [$t(2,521, p=.013 < 0.05)$]; Thesis statement [$t(2,810, p=.006 < 0.05)$]; Body paragraph [$t(2,223, p=.029 < 0.05)$]; Concluding paragraph [$t(3,564, p=.001 < 0.05)$]; Content [$t(2,655, p=.009 < 0.05)$]; Vocabulary [$t(3,613, p=.000 < 0.05)$]; and Language Use and Mechanics [$t(3,494, p=.001 < 0.05)$].

With regard to the second subsidiary research question, the data show that some of the students from the intervention group performed significantly better than their non-intervention peers in the post-test with respect to Sadler & Zeidler's writing quality criteria and the quality of the evidentiary grounds they demonstrated in their arguments. Students from the intervention group made noticeable improvement in their writing competence against all the criteria.

Sadler & Zeidler's quality argument analysis tool was used to assess the extent to which students showed the ability to address the requirements of quality argument in terms of constructing argument, counter arguments and evidenced rebuttal. A slight improvement was seen in the intervention group in the post-test.

Sadler & Zeidler's categorisation of the types of informal reasoning patterns was also used to determine the patterns demonstrated in their academic writing. Emotive reasoning dominated in both groups. However, while there was a slight increase in the use of emotive patterns by the intervention group in the post-test, there was a notable increase in informal rationalistic reasoning.

CHAPTER 6:

DISCUSSION AND RECOMMENDATIONS

6.0 Introduction

This chapter is divided into three sections. The first section presents the findings of the data analysis of the EFL students' pre-and post-test essays related to the subsidiary research question 1. It provides possible explanations for the improved level of performance of some intervention group students and why the majority of them were unable to achieve the highest performance levels. This section also illuminates why the non-intervention group students' performance levels in their post-test were similar to those they achieved in their pre-test. The findings are discussed with reference to previous relevant research studies. The second section presents the findings related to the subsidiary research question 2. It explains how effective is the MIM at developing some of the intervention group students' writing competence and at facilitating promoting the critical thinking skills involved in articulating arguments and informal reasoning strategies to substantiate their claims. The findings are discussed with reference to previous relevant research studies. This section also highlights the obstacles that may encounter a successful implementation of the MIM in a particular EFL setting. Recommendations for overcoming these obstacles are proposed. The third section focuses on the further research for which this study opens avenues on the MIM in Iraq and its application in other settings.

6.1 EFL Students' Pre-and Post-test Essay Quality

Commencing status

Prior to the intervention, both groups of students had been taught by the same teacher and received instruction in argumentation using the same teaching material. It is clear that students in both groups performed poorly on the pre-test essays. The results of both groups were relatively similar with all students achieving a rating of 'No evidence' or 'Inadequate' in all the assessed criteria on the quality of the argumentative essays.

They both had a relatively low level of argumentative competence before the commencement of the intervention. Next, the intervention group was instructed using pedagogies based on the modified integrated process-genre model (MIM), whereas the non-intervention group was taught using a product-based instruction.

6.1.1 Post-test intervention group outcomes

In the post-test essays significant differences were observed as regard performance levels. There were noticeable improvements in all criteria among the intervention group in comparison to the non-intervention group. Meaningful qualitative differences were evident. Nearly half the intervention group of 41 students performed better in the post-test essay than in the pre-test against all criteria. Some students moved from *No evidence* to *Inadequate* performance, while approximately 20% were able to demonstrate *Adequate* performance in all criteria. No student in the non-intervention group was able to achieve this rating.

The reasons behind the improvements made by some intervention students are not explicit. A possible interpretation is that the intervention group

students gained some significant benefits from the delivery of the MIM. It is probable that the systematic and explicit explanation of writing processes and strategies in manageable step-by-step moves throughout the joint text composition cycle significantly contributed to improving their writing competence and the quality of their argumentative essays.

Collaboration in this cycle allows ample time for the students to learn and practise the cognitive operations involved in writing interactively and to raise their awareness of the academic argumentative genre. Students received constructive and critical feedback from more advanced classmates, as well as timely support and guidance from the teacher. They, therefore, gradually gained control over the cognitive writing operations and thus were better able to eventually take on the responsibility of generating and elaborating their thoughts, and ideas, planning, organising them and revising their first drafts to confidently proceed with subsequent writing tasks.

These findings correspond to those found in other L2 writing research and confirm the importance of involvement in a variety of collaborative writing activities and co-operative dyads for effective writing acquisition and the improvement of writing quality (Zamel, 1987; Silva, 1990; Chen, 1997). It is also in accord with the socio-cultural perspective that maintains that collaborative work helps students move from the intra-psychological plane to the inter-psychological plane, benefitting from sharing the multiple intelligence of peers and enabling them to construct new collective knowledge and ways of thinking (Vygotsky, 1978). Other EFL writing studies (Al-Sharah, 1997; Al-Hazmi, 2006; Al-Hazmi & Schofield, 2007) have reported the effectiveness of utilising process-based writing

methodology in improving EFL Arab students' writing competence at tertiary levels.

Incorporating scaffolding writing instruction, mediated with modelling, graphic organisers, assessment criteria and questioning teaching tools, throughout the joint text construction cycle is another likely explanation for the improvements of some of the intervention group students achieved in their post-test essays. It appeared to raise the students' awareness of the rhetorical and linguistic constraints of academic genre, and to familiarise them with its social procedures, practices, and conventions (Larkin, 2002; Lawson, 2002; Hyland, 2003; Lei, 2008). Such strategic knowledge helped students to 'be apprenticed' into the intellectual traditions of a new discourse community' (Warschauer, 2002; Woodward-Kron, 2004), to acquire new knowledge, and transfer and apply it (Vygotsky, 1978; Storch, 2002) to develop a new way of structuring their own thinking (Wenger, 1998) that makes possible the production of the text relevant and acceptable to a particular English speaking community (Flower & Peacock, 2001).

Some students were able to adjust their writing to meet the textual expectations of an English-speaking community. This can be observed in their tendency to sacrifice their L1 rhetorical patterns and adopt an L2 writing style that reflected the cultural codes recognised and valued by such community. This ability has been the subject of a growing body of research on the sociocultural theory of writing. Such research (e.g., Prior, 1998; Gabrielatos, 2002; Prior & Shipka, 2003; Van Lier, 2004; Lie, 2008) posits that learning to write is a culturally-rooted cognitive process that involves the strategic mediation of diverse cultural resources whereby cognitive and

social dimensions of the writing process are dialectically interwoven and dynamically interact so closely that their boundaries are blurred.

More specifically, the findings of this study appear to be consistent with Connor's (2002) argument that in order to overcome or avoid potential interference and negative transference from the L1 into L2 writing, EFL learners need to be explicitly inculcated into a new rhetoric for them to take on a new writing culture. The findings also lend support to other Arab research (e.g. Kamel, 2000) which strongly asserts that L1 Arabic EFL students are in need of a more comprehensive, balanced and effective writing approach that incorporates explicit and systematic instruction to develop conscious awareness of the textual stages and moves, as well as the typical linguistic features. Kamel claims that "the comprehension of texts such as argumentation depends on training rather than language proficiency" (cited in Bacha, 2010, p.230). Other studies (El- Daly, 1991; Fageeh, 2004; Ezza, 2010) have affirmed that if such a comprehensive pedagogical tool is not incorporated in the writing syllabus of Arab tertiary institutions, writing will continue to be a challenging skill for students to acquire.

The influence of Arabic rhetoric on L2 writing has been identified in early contrastive rhetorical studies (for example, Liebmann, 1992; Kaplan, 1966; Hirose, 2003). These studies maintain that distinct rhetorical differences in the organisation of the academic argumentative genre will occur in writing in English, based on the conventions of the students' mother tongue – Arabic. Allen (1970), in particular, noted that Arab EFL writers' style is influenced by interference and negative transfer from their L1 rhetorical

conventions. For example, the claim is usually placed towards the end of the text, if made at all, and often there is no refutation of counter-arguments, making the text more descriptive and anecdotal (Al-Abed Al Haq & Ahmed, 1994). Arabic is characterised by being circular, not cumulative, with the writer coming “to the same point two or three times from different angles, so that a native English reader has the curious feeling that nothing is happening” (Allen, 1970, p.94). This feature was clearly evident in the writing of students from both groups. Another dominant rhetorical norm in Arabic, as detected by Kaplan (1966), is that it tends to employ ‘doodles’; that is, digressions are tolerated and their logical development may entail more repetition and paraphrasing of the content.

However, the findings of this study suggest that the influence of Arabic rhetoric on L2 writing may not be a permanent or an isolated phenomenon and may be only one factor contributing to the difficulties that students encounter in their writing outcomes. The finding that a number of intervention group students could, at the end of the intervention, successfully apply the expectations of argumentation in English writing is indicative of this achievement.

Another basis for the improvement intervention students demonstrated in their post-test essay may be their engagement with the topic and the scaffolded instruction they received in relation to its content. Asking students to write about a controversial topic that is relevant to their life experience was welcomed by some of the students. Students can be expected to write “both quantitatively more and qualitatively better when they are composing papers about topics that engage them” and teachers

should “provide them with a way into the topic” (Zamel, 1982, p. 204). EFL students write better on themes for which their topic-specific background knowledge is "well-integrated" (Langer, 1984, p. 28) or with which they are highly involved and engaged (Bridgeman & Carlson, 1984). Lei (2008) asserts that writing performance is greatly affected by task-related elements such as topic familiarity, difficulty, task-type, and subject matter. On the other hand, allowing students the flexibility to write about topics relevant to their life experiences appears, for some students at least, to have presented an insurmountable challenge to their current repertoire of L2 vocabulary and grammar and constrained the expression of their ideas and thoughts or establishing connections between them in the writing process (Al-Hazmi & Scholfield, 2007; Alshahrani, 2011).

Nonetheless, the majority of Arab students in this study were unable to achieve the highest performance levels. This may be explained by a combination of syllabus constraints, teaching methodology, and constraints on time for practice; all of which may have contributed to the inadequate development of the Arab students’ awareness of academic argumentation norms and practices (Al-Khuweileh & Al-Shoumali, 2006; Al-Hazmi & Schofield, 2007). Thus some students did not respond as anticipated and struggled to produce adequate essays in their post-test. However, this in no way reflects on the progress that was made by others in the intervention group - an improvement not evident in the non-intervention group.

A further possible explanation for the mixed post-test results of the intervention group is that the continuing influence of the product-based method of teaching writing to which they have been previously exposed and

which may have diminished the impact of the MIM. Current education policy at the Arab tertiary level, including Iraq, dictates the EFL writing curriculum adopts a traditional didactic pedagogical approach in which the teaching of writing processes and strategies and academic argumentative norms and practices is absent. Al-Abed Al-Haq and Ahmed (1994) suggested that the methods used in teaching composition at university level are the major causes of EFL Arab students' lack of competence in argumentative skills. Students tend to think in terms of the rhetorical tradition of their L1 as a composing strategy (Kharma & Hajjaj, 1989, Halimah, 1991).

A number of researchers (Al-Khatib, 2001; El-Aswad, 2002; Al-Ghamdi, 2009; Abu Rass, 2011) report that students, especially those with low level of L1 proficiency, exploited translation to facilitate the process of thinking and writing in L2 when faced with difficulties that interrupted the flow of their ideas or to solve linguistic problems, This scenario is further amplified by the high degree to which Arabs adhere to the rhetorical conventions of Qur'an which are bound to solidarity, politeness, and face-saving strategies (Hatim, 1990). Such a commitment may go some way to explaining students' tendency to favour learned stylistic and rhetorical patterns from their L1 writing in their L2 writing (Al-Qahtani, 2006).

A further possibility is that some of the students and the teacher may have developed an unfavourable attitude towards the MIM as they have been well-entrenched in the conventional writing methodology and many still prefer it. As a consequence, the collaborative processes of the MIM were not entirely amenable to a culture where writing is viewed as "reordering

sentences in scrambled paragraphs, selecting appropriate sentences to complete gapped paragraphs and writing from provided information” (Hyland, 2003, p.6).

Additionally, while some students did embrace the joint activities, and appear to have benefitted from them, others may not have benefitted from the joint text construction cycle. Collaboration requires students to act as independent thinkers and problem solvers, with the ability to communicate effectively with both their peers and the teacher, and to transfer and apply what they learn in novel situations (Davies, 2003). These characteristics are not typical of Iraqi students who have spent many years as passive recipients within a didactic instructional framework.

It is also possible that the teacher might not have been sufficiently prepared professionally to support students working in this environment, despite the training provided. In particular teaching skills were required to generate small-group discussion and to guide and encourage students to express, reflect on and evaluate their own and their peers’ ideas. There is always a risk however that collaborative dialogue remains teacher-dominated, characterised by a sequence of open-ended questions which are “unfocused and unchallenging, and are coupled with habitual and eventually phatic praise rather than meaningful feedback” (Alexander, 2005, p.3). This turns collaborative activities into an ‘obsessively narrow, ends-driven endeavour’ or ‘a meandering chat that leads nowhere important or interesting’ (Burbules, 1993, p. 143). Not only the teacher, but also most students would have had little previous experience in collaborative problem-solving work and therefore have been unfamiliar with the conversational principles that

guided their contribution to solve a problem. In addition, students might doubt the benefits of peers' comments or be reluctant to initiate feedback, lacking confidence in the other's input (Burbules, 1993).

Given the possibility of lack of exposure to student-centric pedagogies, inadequate teacher professional training, coupled the challenge of developing a conceptual understanding of all sides of a topic, the change may have been insurmountable (Levinson, 2004; Bryce & Gray, 2004).

Notably, the length of the treatment period was a further constraint likely to compromise the intervention's optimum benefit. The MIM was delivered over a relatively short time (12 weeks of 2 x 50- minute periods per week). Some students may have needed extra time, more explicit writing instruction and practice, and more exposure to authentic model texts. Lindemann (1995, p. 106) maintains that "as a rule, the more time students spend on a variety of pre-writing activities, the more successful the paper will be".

6.1.2 Post-test non-intervention group outcomes

The non-intervention group students' performance levels in the areas of Vocabulary and Language Use and Mechanics are similar to those they achieved in their pre-test. Even though these students were exposed to the same content as the intervention group, their performance on these criteria remained unchanged. These students were predicted to perform better on these two criteria due to the focus of the product approach on the precision of vocabulary and the accuracy of grammatical rules. However, there was only some evidence of modest improvement in these areas.

Four factors may account for why the non-intervention group students could not make statistically significant differences to their performance in the four quality criteria. Firstly, most students appeared to give priority to memorising and applying the formalistic components of argumentative text; that is, grammatical rules and linguistic accuracy, memorisation of word lists, sentence structures, and adherence to a de-contextualised and prototypical text templates. This focus did not offer the students the appropriate opportunities to improve their writing proficiency or to demonstrate their capacity to argue logically and persuasively (Hyland, 2003).

Secondly, as dictated by the product pedagogy, the focus on prescriptive conventions may have limited student motivation and thus compromised the outcome of their writing (Alshahrani 2004; Al-Hazmi & Scholfield, 2007).

Thirdly, they did not receive formative feedback from the teacher and their peers. They therefore lacked the opportunity to benefit from audience input.

Fourthly, the non-intervention students did not receive scaffolded writing instruction so received little by way of explanation or modelling. This lack of support may also have hindered their progression from their current level of writing performance to a higher level (Larkin, 2002).

6.2 Argument Quality and Informal Reasoning Patterns

Pre-test essays

The pre-test findings showed no significant differences in the quality of the arguments the students displayed across the two groups as judged against the three structural criteria of arguments proposed by Sadler and Zeidler

(2005a) and in terms of students' ability to spell out evidentiary grounds whose quality increases with the number of relevant reasoned elaborations and explanations they gathered from multiple sources (Kuhn,1991). Only 16 students (31.3%) from the non-intervention group and 15 students (36.5%) from the intervention group attempted to satisfy the criteria of quality argument, though their arguments were unsound. Both groups had a relatively low level of argumentative competence before the commencement of the intervention.

Also, there were no noticeable differences between the two groups in terms of the variety of informal reasoning patterns they demonstrated in their pre-test essays in accordance with Sadler and Zeidler's (2005b) categorisation. Nearly two thirds of the students from the two groups formulated reasoning patterns. Emotive reasoning was more frequently used than any other form of informal reasoning, albeit its use was limited with no use of rationalistic or intuitive reasoning in either groups. The findings suggested that they were relatively similar in their reasoning ability when supporting their arguments about GM foods.

Post-test essays

Non-intervention students

Students from the non-intervention group showed no substantial improvement in the quality of their arguments. In their post-test, nearly 33 students (64.8.2%) generated arguments, although they did not meet Sadler and Zeidler (2005a) and Kuhn's (1990) criteria. Only a third of the students (31.3%) applied informal emotive reasoning and only 4 students (7.8%) were able to demonstrate rationalistic reasoning. One possible reason for

poor reasoning might have been the influence of the product-based method of teaching writing at Arab tertiary level institutions in which students' personal experiences, social values, beliefs and knowledge are marginalised (Al-Sheikh, 2001; Zo`bi1, 2014). As collaborative activities were not part of the writing instruction used in this group of students, they did not have the opportunity to engage in critical interaction with the teacher and/or their peers. Their limited chance to practise and develop critical thinking skills and the enquiry habits involved in taking a position, and their lack of exposure to strategies of developing evidence to support a position and viewing an issue from multiple perspectives were, in this study, a major constraint on the non-intervention students' manifestation of informal reasoning and quality arguments.

Intervention students

Some of the students from the intervention group used arguments and informal reasoning patterns in both qualitative and quantitative terms. Their improved reasoning repertoire enabled them to show measurable improvements in their essays as evidenced in generating supportive arguments, counter-arguments and rebuttals with sound evidence and a variety of informal reasoning patterns to substantiate or refute a position on GM foods. However, approximately a quarter of the intervention students (21.9%) demonstrated a combination of rationalistic/emotive reasoning, whereas the majority still resorted to emotive reasoning. No intuitive reasoning was found in any essay.

This finding suggests that while these students benefited from collaborative instruction to build an understanding of the target audience, the dominant

use of emotive reasoning in all essays remained. The propensity for this type of reasoning is compatible with the cultural need for social harmony and concurs with the results of other studies (Patai, 1983; Zo`bi, 2014) that show that social harmony is a primary value in a collectivist society, such as the Arab/Iraqi society. A message is more valued and effective if it is sympathetic to the needs and views of the audience. The finding also conforms to a social constructivist theory of writing (Canagarajah, 2002; Kern, 2000; Hyland, 2003) which views writing as an activity shaped and informed by different purposes in different social contexts and influenced by writers' conscious awareness of the audience with whom they share values.

Explicit instruction in content knowledge (of GM foods) appears to have been beneficial. Some of the intervention group students appeared to positively benefit from such instruction. A factor that enabled them not only to formulate arguments, but also to debate and assess the topic from perspectives that were divergent or incompatible with their own views to generate counter-arguments; to discredit the premises of potential opposing positions; and to clarify the merits and values of their own claims. These skills are deemed to be the difficult characteristics of successful argumentative writing: "dealing implicitly or explicitly with possible counterarguments" (Connor, 1990, p. 76) and establishing the writer's credibility.

Possessing elaborated content knowledge enabled some students from the intervention group to use rationalistic reasoning grounded in a greater conceptual understanding of the topic as opposed to emotive reasoning that

relies on instincts or personal feeling towards the issue to make their statements (Zeidler & Schafer, 1984; Sadler & Donnelly, 2006). Obviously, content knowledge is a significant factor contributing to the quality of argumentation and reasoning strategies.

Similar findings were reported from other research studies (Wiley, 2003; Sadler, 2004; Sadler & Zeidler, 2005b). They reported that students with elaborated content knowledge show measurable improvement in producing more quality arguments advanced informal reasoning patterns, compared to less knowledgeable students who were less likely to consider and evaluate the other side's argument.

However, Kuhn (1991) found that prior knowledge had no impact on argumentation skills, arguing that "the data show that a large sophisticated knowledge base in a content domain does not determine the quality of thinking skills used in the domain" (p. 39). Similarly, Eskin and Bekiroglu (2009) reported that students' pre-existing knowledge base in a content domain does not necessarily lead to higher quality informal reasoning. Means and Voss (1996) concurred, claiming that, even though content knowledge reveals some basic patterns of argumentation such as generating more claims, data, and warrants, it does not guarantee higher quality argumentation. Quality of argumentation is limited by the absence or presence of counter-arguments, weighing and evaluating alternative points of views and rebuttals rather than content knowledge. Therefore, given the findings of this study, additional research is needed to describe the relationship between conceptual understanding of a controversial and informal reasoning and argument quality.

It is important to note, however, that the response of the intervention group students to the implementation of the MIM varied considerably. A number of students did not appear to benefit at all. Some students could not distinguish explanatory and informative statements from the critical use of evidence. They cited theoretical explanations instead of evidence to justify their position. These findings are consistent with other research studies (Kuhn, 1991; Brem & Rips, 2000). For example, Brem and Rips (2000) reported that their participants did not recognise the limitations of the use of explanatory and informative statements as a mode of justification and, therefore, often failed to see the need for evidence. Kuhn's (1991) study found that participants merely told stories - a form of "pseudo evidence" - instead of producing "genuine evidence", leading to the inability to provide even the minimal requirement of evidence acceptability. These, and other, studies emphasise the need for instruction in building an understanding of the nature of evidence and data, and strategies for critically evaluating content and sources of scientific information (Sadler, 2004).

Adopting a controversial issue as the topic for the writing, such as GM foods, has the potential to challenge or threaten the students' and teacher's long-held beliefs. This challenge has the potential to impact on their arguments and demonstrate particular informal reasoning patterns.

Avoidance of any argument or informal reasoning that might be taken as contestation of the Islamic faith is one manifestation of this phenomenon. Should this be the case, it is a significant barrier to the capacity to evaluate alternative concerns and considerations. This finding has been raised in another study, Kilinc, Afacan, Polat, Olat Demirci, Guler, Yildirim,

Demiral, Eroglu, Kartal, Sonnmez, Iseri, and Gorgulu (2014) also contend that Qur'anic teachings, the practices of the Prophet Mohammed, and the religious beliefs that teachers hold and their reactions to a topic have an influential impact on students.

6.3 The Influence of the MIM

The reason for the improvement made by some intervention group students is possible that, although the two groups received instruction in argumentation using the same teaching material and were taught by the same teacher, the pedagogical approach of the MIM was more effective at developing their writing competence and at facilitating promoting the critical thinking skills involved in articulating quality arguments and a combination of informal reasoning strategies. The findings reinforce a social constructivist theory of writing (Canagarajah, 2002; Hyland, 2003) which views writing as an activity shaped and informed by different purposes in different social contexts and influenced by the writers' conscious awareness of the audience with whom they share values (Kern, 2000).

The MIM provided a shift from teacher-centred writing instruction to learner-centred writing instruction. Students were encouraged to participate in a variety of learning activities which required them to move from the intra-psychological plane to the inter-psychological and dialogic argument (Vygotsky, 1978). Such externalisation appeared to help some students employ critical thinking skills to assess the topic from various perspectives, evaluate the multiplicity of data, and engage in-depth discussion about it.

Despite the fact that the findings of this study indicate clearly the potential benefits of the integrated model, its application is not without a number of possible obstacles within the Iraqi context. Firstly, some universities retain a strong preference for traditional pedagogy characteristic of rigid teacher-dominated classroom practices and reliance on textbooks. As a consequence, it is unlikely that writing teachers will adopt new writing methodologies as an alternative to the traditional curriculum and teaching styles.

Secondly, some teachers may conceive academic writing as a process of learning grammar rules and formulaic model texts and encourage rote learning and memorisation to learn to write well in English. Such methods leave no place for writing activities that promote critical and creative thinking skills.

Thirdly, at the institutional level, there are large classes and few modern teaching facilities. Large classes limit opportunities for conferencing, for giving individual feedback, and for students to reflect on each other's writing. Addressing these concerns would give rise to financial and administrative imposts that universities might not be able or willing to meet.

However, although the findings strongly endorse the importance attached to collaborative learning, it appears not to have delivered optimal benefits to all students in the intervention group. The approach requires independent thinking and problem solving, the ability to communicate effectively with both peers and the teacher, and the transfer and application learning in novel situations (Davies, 2003). These characteristics are not typical of Iraqi

students who have spent many years of instruction within a didactic framework.

6.4 Recommendations

The findings reported in this study suggest that the implementation of the MIM is a potential means of improving Iraqi EFL undergraduates' writing and critical thinking skills. However, applying the MIM in an Iraqi EFL context is problematic and demands considerable rethinking of the pedagogical foci and theoretical principles.

First and foremost, the findings of this study indicate the necessity for conceiving writing as a goal-oriented, problem-solving, discovery process involving a set of recursive cognitive stages and strategies. The pedagogical focus needs to be shifted from product-based linearity and prescriptivism toward a focus on recursiveness. Bringing the MIM into an Iraqi EFL writing classroom challenges both conventional pedagogical foci and classroom practices. Both must change in order for writing instruction to be more effective.

A shift in classroom culture is therefore needed – one that supports sharing experiences and practices in negotiating and creating knowledge. Such situated learning requires the creation and maintenance of a collaborative and challenging learning environment which provides ample opportunities and time for students to explore and gather their ideas and thoughts to create their texts (Raimes, 1983, 1985; Zarnel, 1982, 1983, 1984). This constitutes social interaction and engagement with the teacher and other students. In this participatory learning, students are active participants and the teacher is

a monitor and evaluator only, ensuring that the text is appropriate and making an objective assessment of overall performance (Tribble, 1996).

More fundamentally, the findings are indicative of the significance of reconceptualising the writing process as socio-cultural (Flower, 1994; Larios & Murphy, 2001; Cumming, Busch, & Zhou, 2002; Lei, 2008). A number of writers (for example, Kim & Kim, 2005; Frith, 2006; Gao, 2007) suggest that a productive and effective writing model for promoting EFL writing competence that incorporates awareness of the academic argumentative would offer a rich potential for L2 writing pedagogy. Time would be devoted to classroom activities that use authentic argumentative texts as scaffolding tools to acquire awareness of the tacit institutional discursive norms and recurrent linguistic features valued by the members of the English academic writing community. However, these model texts should not be taught “as an algorithm” to be reproduced in a mechanical manner (Hunt, 1994, p. 246) as in the product approach pedagogy, but as a means to achieve socially-recognised writing tasks (Beaufort 2000; Hyland 2003).

Incorporating scaffolding writing instruction, mediated with modelling, graphic organisers, assessment criteria and questioning, is critical to create the optimal social conditions to move students from assisted to individual performance. As a result, a fundamental pedagogical recommendation is a series of teaching tools as a core component of instruction to foster and develop higher intellectual capabilities.

In such learning settings, students learn through a process of ‘peripheral participation’ (Lave & Wenger, 1991) used by more expert members of the practice community. They transfer and independently apply the knowledge they collectively construct to new settings and thus become fully-fledged community members (Vygotsky, 1978).

Unlike the standardised summative testing system still commonplace in writing classes in Iraqi universities, assessment of a student’s writing achievement needs to attend to the formative stages of writing. This calls for writing assessment as an on-going process. It is imperative for the EFL writing teacher to create writing activities that take students through various graded ZPDs, where learning is most likely to occur, to gauge continuously the effectiveness of the instruction and to monitor on-going progress. Such assessment provides the feedback needed to move ahead and achieve more complex learning goals: "Instruction would be completely unnecessary if it merely utilized what had already matured in the developmental process, if it were not itself a source of development" (Vygotsky, 1978, p. 212). Such formative feedback helps in identifying student strengths and areas in need of further development. It provides information about the gap between actual and target performance level.

The use of a controversial issue as a writing theme has the potential to attract students and counters the “lack of background knowledge [which] will result in students’ making unsupported claims that may or may not be logically connected to the proposition, warrant, or opposition” (Knudson, 1992, p.176). Writing tasks must be relevant to students’ real-world interests, needs and experiences to motivate them to write and produce more

effective texts, rather than be topics imposed by the teacher or provided by the textbook. Besides this, if the aim of education involves the promotion of character and democratic citizenry (Driver & Osborne, 2000), the findings of this study suggest that socio-scientific issues can be an appropriate component of the writing curriculum, having a positive influence on the development of argumentation skills. Socio-scientific issues can promote reflection, and in collaborative settings, the synthesis of different perspectives when defending judgements.

The EFL teacher needs to lead the students in analysing texts written by native speakers of English, to draw inferences, to evaluate information, to build familiarity with the academic genre, and to use external sources to enrich their linguistic repertoire. Students should be encouraged to transfer these critical behaviours into their own L2 writing, therefore critical thinking skills are a prerequisite of academic writing. Instead of memorisation, rote learning and test-orientation, independent thinking should be encouraged by way of critical pedagogy.

Collaboration and engagement with others in enquiry-based dialogue provides an effective ground for students to acquire critical thinking skills. By using a socio-scientific issue as an instrument to teach reasoning skills, the teacher is called upon to redesign the normal authoritative classroom. A collaborative and interactive enquiry-based environment goes beyond memorisation and rote learning and allows students to discover, express and incorporate their personal ideas, beliefs and knowledge and the moral and ethical repercussions of a given issue. It allows them to reason, to evaluate data, to 'weigh up' the relevance and value of supportive materials, to

consider multiple perspectives, and to discredit opposing claims. Critical thinking skills however can only take place when students use their intellectual capacities for reasoned judgements and where teachers adopt a “procedural neutral stance by acting as a facilitator and students are encouraged to explore a range of viewpoints without being limited by that of the teacher” (Chan & Yap, 2010, p.18).

6.5 Suggestions for Further Research

Despite the limitations of the study, it has made a contribution to the EFL writing research and practice by highlighting the dearth of research on the process-genre approach in an Iraqi EFL context. These limitations also open avenues of enquiry for future research on the MIM in Iraq and its application in other settings.

This study only placed emphasis on exploring and familiarising students with the L2 rhetorical stages and moves of academic argumentative genre. The study did not explicitly compare the cultural differences between the L1 (Arabic) and L2 in terms of their rhetorical thought patterns. Continued by research grappling with these issues is needed.

Equally importantly, future study is needed to investigate the period of delivery of the MIM needed to influence all students’ writing performance. Common pedagogical sense claims that achieving improvement in writing competence is a slow process, and the shorter the instructional period, the less the improvement in the quality of student’s writing is anticipated (Burton 1973, cited in Dyer, 1996).

‘Timed writing’ may have been another limitation that affected the findings of this study. In this study, pre-and post-test writing assignments of both the intervention and non-intervention groups were completed within a specific time line (90 minutes). Time restrictions may place a considerable amount of psychological pressure on students when composing their written products and therefore the validity and reliability of the test to investigate students’ writing ability is questionable (Caudery, 1990). Further research to investigate EFL students’ writing performance when they are allowed a longer period of time to complete their assignments would be beneficial (Wang & Wen, 2002).

This study was limited to a focus on argumentative genre, which is preferred in academic milieu. The impact of the MIM on genres such as descriptive and narrative text types is also worthy of future investigation

Additionally, the impact of the MIM on the writing competence and reasoning ability of non-English majors, particularly students at different levels of study (secondary, tertiary) who have little or no experience in L2 writing, would broaden its claims.

6.6 Summary of the Chapter

This chapter examined the pedagogical implications, challenges and obstacles of the MIM in the Iraqi context. It has also highlighted the limitations of the study and suggested areas for further research.

Lack of knowledge of the writing process, academic writing genre conventions and critical thinking skills are the underlying factors limiting EFL Arab students’ ability to produce high quality academic writing. This

chapter summarised the differences between the students' pre-and post-test essays and provided possible explanations for the improved level of writing performance of some intervention group students. The role of the MIM and the impact of topic content in producing these improved outcomes were discussed. Other factors that may explain why some of the intervention students did not respond positively to the delivery of the MIM are examined.

This study is the first of its kind in the Iraqi context and provides insights into the ways in which the design and implementation of pedagogical practices in writing instruction in the Arab contexts can be improved. The study provides a springboard for further research studies where the MIM can be applied and perhaps new insights will be gained into EFL writing research and methodology.

REFERENCES

- Abu Rass, R. (2011). Cultural transfer as an obstacle for writing well in English: The case of Arabic speakers writing in English. *English Language Teaching*, 4(2), 206-212. doi: 10.5539/elt.v4n2p206
- Al-Sharah, N. D. (1997). *An investigation of EFL student writing: Aspects of process and product*. Unpublished Doctoral Thesis. Glasgow University, Glasgow, UK.
- Akyle, A. (1994). First language use in EFL writing: Planning in Turkish vs. planning in English. *International Journal of Applied Linguistics* 4 (2), 169-196. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1111/j.1473-4192.1994.tb00062.x/epdf>
- Alam, M. (1993). *The use of Arabic in the composing processes of Arab university students writing in English (Kuwait)*. Unpublished Doctoral dissertation, University of Pennsylvania, Indiana.
- Al-Batal, M. (1990). Connectives as cohesive elements in a modern expository Arabic text. In M, Eid. & J. McCarthy (Eds.), *Perspectives on Arabic Linguistics II*, Amsterdam/ Philadelphia: John Benjamins.
- Alexander, L.G. (1965). *Essay and letter writing*. London: Longman.
- Alexander, L.G. (1976). *Developing skill: An integrated course for intermediate students*. London: Longman.
- Alexander, R.J. (2005). *Culture, dialogue and learning: Notes on an emerging pedagogy*. Paper presented at the Conference of the International Association for Cognitive Education and Psychology, University of Durham, UK.
- Al-Ghamdi, A. (2009). *Academic and professional language needs of Saudi undergraduate students in an English language programme: A cyclical evaluation model (CEM)*. Unpublished Doctoral thesis. Newcastle University, Newcastle, UK.
- Al-Ghonaim, A. S. (2005). ESL college students' beliefs and attitudes about reading-to-write in an introductory composition course: A qualitative study. Unpublished Doctoral Dissertation, Indiana University of Pennsylvania. Retrieved from <http://search.proquest.com/docview/305407570?accountid=10382>
- Alhaisoni, E. (2012). The effect of writing proficiency on writing planning strategy use: A case study of Saudi learners of English. *International Journal of Linguistics*, 4(3), 87-100. Retrieved from <http://www.macrothink.org/journal/index.php/ijl/article/view/1808/pdf>
- Al-haq, F. A., & Ahmed, A. (1994). Discourse problems in argumentative writing. *World Englishes*, 13(3), 307-323. Retrieved from:

<http://onlinelibrary.wiley.com/doi/10.1111/j.1467-971X.1994.tb00318.x/epdf>

- Al-Harthi, K. (2011). *The Impact of Writing Strategies on the Written Product of EFL Saudi Male Students at King Abdul-Aziz University*. Unpublished Doctoral thesis. Newcastle University, Newcastle, UK.
- Al-Hazmi, S. (2006). Writing Reflection: Perceptions of Arab EFL Learners. *South Asian Language Review*, XVI (2), 36-52. Retrieved from <http://www.scribd.com/doc/80809477/Writing-and-Reflection-Perceptions-Of#scribd>
- Al-Hazmi, S. & Schofield, P. (2007). Enforced revision with checklist and peer feedback in EFL writing: The example of Saudi university students. *Scientific Journal of King Faisal University (Humanities and Management Sciences)*, 8 (2), 237-267.
- Al-Humaidi, M., M. (2008). *Planning in the writings of Saudi EFL learners at the college of languages and translation at KSU*. Unpublished M.A Dissertation. King Saud University, Saudi Arabia.
- Aljamhoor, A. (1996). English Writing Process of Two Saudi Graduate Students Before and After ESL Instruction. Unpublished PhD Dissertation, Michigan State University.
- Aljamhoor, A. A. (1986). *The English writing process of two Saudi graduate students before and after ESL instruction*. Unpublished PhD thesis, Michigan State University, East Lansing, MI.
- Al-Jubouri, A.J.R. (1984). The role of repetition in Arabic argumentative discourse. In J. Swales & H. Mustafa (Eds.). *English for Specific Purposes in the Arab World*. Language Studies Unit Publication, University of Aston in Birmingham, pp. 280-291.
- Al-Khafaji, R. (2005). Variation and recurrence in the lexical chains of Arabic and English texts. *Poznan Studies in Contemporary Linguistics* 40, 5-25.
- Al-Khatib, M. (2001). The pragmatics of letter writing. *World Englishes*, 20 (2), 179-200.
- Al-Khuweileh, A., & Al-Shoumali. (2000). Writing errors: A study of the writing ability of Arab learners of academic English and Arabic at university. *Language, Culture and Curriculum*, 13 (2), 174-183. Retrieved from <http://www.informaworld.com/smpp/content>
- Alshahrani, A. (2011). *The Influence of Using an Electronic Portfolio as a Learning Tool on ESL Students' Writing Motivation and Performance*. Unpublished PhD thesis. Newcastle University.
- Allan, D. (2004). *Oxford placement test*. Oxford: Oxford University Press.

- Allen, H. (1970). A monotonous monologue. In Larudes, F. (Ed.) *TEFL in the Middle East*. Egypt: American University of Cairo Press.
- Al-Qahtani, A. (2006). *A contrastive rhetoric study of Arabic and English research article introductions*. Unpublished Doctoral Thesis. Oklahoma State University, Oklahoma, USA.
- Al-Sawalha, A. M. S., & Chow, T. V. F. (2012). The effects of proficiency on the writing process of Jordanian EFL university students. *Academic Research*, 3(2), 379-388.
- Al-Semari, O. (1993). *Saudi students' revising strategies in Arabic and English essays*. Unpublished PhD thesis, Michigan State University, East Lansing, MI.
- Al-Sheikh, O. (2001). Evaluating the program of curricula & school books. Series of evaluative studies of the educational development program. Amman, *National Centre for Developing Human Resources*.
- Alwan, A.S. (2004). *Education in Iraq current situation and new perspectives*. Baghdad, Ministry of Education. Iraq.
- Anderson, R. C., Nguyen-Jahiel, K., McNurlen, B., Archodidou, A., Kim, S., Reznitskaya, A., Tillmanns, M., & Gilbert, L. (2001). The snowball phenomenon: Spread of ways of talking and ways of thinking across groups of children. *Cognition and Instruction*, 19(1), 1-46.
- Andriessen, J., Baker, M., & Suthers, D. (2003). Argumentation, computer support, and the educational contexts of confronting cognitions. In J. Andriessen, M. Baker, & D. Suthers (Eds.), *Arguing to learn: Confronting cognitions in computer-supported collaborative learning environments* (pp. 1-25). Dordrecht: Kluwer Academic.
- Arndt, V. (1987). Six writers in search of texts: a protocol-based study of L1 and L2 writing. *ELT J* 41, 257-267.
- Askehave, I., & Swales, J. M. (2001). Genre identification and communicative purpose: A problem and a possible solution. *Applied Linguistics*, 22(2), 195-212.
- Atkinson, D. (2003). L2 writing in the post-process era: Introduction. *Journal of Second Language Writing*, 12 (1), 3-15.
- Babalola, H.A.L. (2011). *Relative Effects of task-based and Process-genre Instructional Approaches on Written English performance of polytechnic students in South-western Nigeria*. Unpublished PhD Thesis, partial Fulfilment of the Degree of Doctor of Philosophy University of Ilorin Nigeria.

- Babalola, H. A. L. (2012). Effects of process-genre based approach on the written English performance of computer science students in Nigerian polytechnic. *Journal of Education and Practice*, 3 (6), 1-6.
- Bacha, N. (2001). Writing evaluation: What can analysis versus holistic essay scoring tell us? *System*, 29 (3), 371-383.
- Bacha, N. (2010). Teaching the academic argument in a university EFL environment. *Journal of English for Academic Purposes*, 9(3), 229-241. doi:10.1016/j.jeap.2010.05.001
- Badger, R., & G. White. (2000). A process genre approach to teaching writing. *ELT Journal*, 54 (2), 153-160.
- Baker, M. J. (2009). Argumentative interactions and the social construction of knowledge. In N.M. Mirza & A.-N. Perret-Clermont (Eds.), *Argumentation and Education: Theoretical foundations and practices* (pp. 127-144). Berlin: Springer Verlag.
- Bakhtin, M. M. (1986). The problem of speech genres. In C. Emerson & M. Holquist (Eds), *Speech genres and other late essays* (pp. 60-102.) Austin, TX: University of Texas Press.
- Barnard, R. & Campbell, L. (2005) 'Sociocultural theory and the teaching of process writing: The scaffolding of learning in a university context', *The TESOLANZ Journal*, 13, 76-88.
- Bazerman, C. (1988). *Shaping written knowledge: The genre and activity of the experimental article in science*. Madison, WI: University of Wisconsin Press.
- Bazerman, C. (1994). Systems of genres and the enactment of social intentions. In A. Freedman & P. Medway (Eds.), *Genre and the new rhetoric* (pp. 79-101). London: Taylor and Francis.
- Bazerman, C. (2004). Speech acts, genres, and activity systems: How texts organize activity and people. In C. Bazerman & P. Prior (Eds.), *What writing does and how it does it: An introduction to analysing texts and textual practices* (pp. 309- 339). Mahwah, New Jersey: Erlbaum.
- Beare, S. (2000). *Differences in content generating and planning processes of adult L1 and L2 proficient writers*. Unpublished Doctoral Dissertation, University of Ottawa, Ottawa, Ontario.
- Beaufort, A. (2000). Learning the trade: A social apprenticeship model for gaining writing expertise. *Written Communication*, 17(2), 185-223.
- Bereiter, C., & Scardamalia, M. (1987). *The psychology of written composition*. Hillsdale, NJ: Lawrence Erlbaum.
- Berkenkotter, C., & Huckin, T. (1993). Rethinking genre from a socio-cognitive perspective. *Written Communication*, 10, 475-509. Retrieved from <http://wcx.sagepub.com/content/10/4/475.abstract>

- Bhatia, V. (1993). *Analyzing genre: Language use in professional settings*. Harlow, UK: Pearson Education.
- Bhatia, V. (2002). Applied genre analysis: A multi-perspective model. *IBÉRICA*, 4 (1), 3-19.
- Bizzell, P. (1982). College composition: Initiation into the academic discourse community. *Curriculum Inquiry*, 12, 191-207.
- Bizzell, P. (1986). "What happens when basic writers come to college?" *College Composition and Communication*, 37(3), 294-301.
- Bodrova, E., & Leong, D.J. (2001). Lev Vygotsky playing to learn. *Scholastic Early Childhood Today*, 15(4), 48-49.
- Brem, S., & Rips, L. (2000). Evidence and explanation in informal argument. *Cognitive Science*, 24, 573 – 604.
- Breuch, L. M. K. (2003). Post-process “pedagogy”: A philosophical exercise. In V. Villanueva (Ed.) *Cross-talk in comp theory: A reader* (pp. 97-125). Urbana, IL: NCTT.
- Brice, R.G. (2004). Connecting oral and written language through applied writing strategies. *Intervention in School and Clinic*, 40 (1), 38-47.
- Bridgeman, B., & Carlson, S. (1984). Survey of academic writing tasks. *Written Communication*, 1(2), 247-280. doi: 10.1177/0741088384001002004
- Brown, H. D. (2001). *Teaching by principles: An interactive approach to language pedagogy*. Englewood Cliffs, NJ: Prentice Hall Regents.
- Brook-Carson, J.E., Carrel, P.L., Silberstein, S., Kroll, B., & Kuehn, P., A. (1990). Reading-writing relationships in first and second language. *TESOL Quarterly* 24(2), 245-266. Retrieved from <http://dx.doi.org/10.2307/3586901>
- Bryce, T. G. K., & Gray, D. S. (2004). Tough acts to follow: The challenges to science teachers presented by biotechnological progress. *International Journal of Science Education*, 26, 717-733.
- Burbules, N. (1993). *Dialogue and teaching: Theory and practice*. New York: Teachers College Press. Retrieved from <http://www.amazon.com/Dialogue-Teaching-Practice-Contemporary-Educational/dp/0807732419>
- Callaghan, M., Knapp, P., & Noble, G. (1993). Genre in practice. In B. Cope & M. Kalantzis (Eds.), *The power of literacy: A genre approach in teaching writing* (pp.179-202). Bristol, PA: Falmer Press.
- Cameron, L. (2001). *Teaching languages to young learners*. Cambridge: Cambridge University Press. Retrieved from <http://cambridge.org/9780521774345>.
- Canagarajah, A.S. (2002). *Critical academic writing and multilingual students*. Ann Arbor: University of Michigan Press.

- Carr, Kathryn S. (1988). "How Can We Teach Critical Thinking?" *Childhood Education*, 65, 69-73.
- Carson, J., & Kuehn, P. (1992). Evidence of transfer and loss in developing second language writers. *Language Learning*, 42(2), 157-182.
- Caudery, T. (1990). The validity of timed essay tests in the assessment of writing skills. *ELT Journal*, 44(2), 122-131. Retrieved from <http://eltj.oxfordjournals.org/content/44/2/122.full.pdf+html>
- Chala, P.A., & Chapetón, C.M. (2012). EFL argumentative essay writing as a situated-social practice: A review of concepts. *Folios*, 36, 23-36
Retrieved from:
http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S0123-48702012000200002
- Chan, M. Y. & Yap, N. T. (2010). Encouraging participation in public discourse through online writing in ESL instruction. 3L; Language, Linguistics and Literature. *The Southeast Asian Journal of English Language Studies*, 16 (2), 115-139.
- Chandrasegaran, A. (1991). *The composing processes of university student writers*. Unpublished Doctoral Thesis. National University of Singapore, Singapore.
- Chandrasegaran, A. (2009). What does teaching writing as a process really mean? In L.J. Zhang, R. Rubdy, & L. Alsagoff (Eds.). *Englishes and literatures-in-English in a globalised world: Proceedings of the 13th International Conference on English in Southeast Asia* (pp. 338-351).
- Chen, Y. (1997). *Effective writing instruction: University students' perceptions*. A paper presented in the 24th International Systemic Functional Congress. Toronto: York University.
- Cheng, Fei-wen. (2008). Scaffolding Language, Scaffolding Writing: A Genre Approach to Teaching Narrative Writing. *Asian EFL Journal* 10 (1) 8. Retrieved from: http://www.asian-efl-journal.com/June_2008_EBook_editions.pdf
- Chien, S.H (2008). A cognitive analysis of the relationships between Chinese EFL writers' strategy use and writing achievement performance. *Cambridge Occasional Papers in Linguistics*. Retrieved from <http://www.ling.cam.ac.uk/COPIL/papers/3-chien.pdf>
- Chilisa, B. 2005. Educational Research within Postcolonial Africa: A Critique of HIV/AIDS Research in Botswana. *International Journal of Qualitative Studies in Education* 18: 659-84.
- Chinn, C. A., & Brewer, W. F. (2001). Models of data: A theory of how people evaluate data. *Cognition and Instruction*, 19(3), 323-393.
- Christie, F. (2007). Genres and Institutions: Functional Perspectives on Educational Discourse. In Christie, F & J. R., Martin [Eds.] *Language*,

- Knowledge and Pedagogy: functional linguistic and sociological perspectives*(pp.29-40). London: Cassell.
- Clark, I. L. (1998). *The genre of argument*. Fort Worth: Harcourt Brace College Publishers.
- Coe, R.M. (1994). Teaching genre as process. In A. Freedman, & P. Medway, (Eds.), *Learning and teaching genre* (pp. 157-169). Portsmouth, NH: Heinemann/ Boynton-Cook.
- Cohen, A., & Brooks-Carson, A. (2001). Research on direct versus translated writing: Students' strategies and their results. *Modern Language Journal*, 85(2), 169–188.
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in*
- Cole, M. (1996). *Culture in mind*. Cambridge, MA: Harvard University Press.
- Connor, U. (1987). Research frontiers in writing analysis. *TESOL Quarterly*, 21(4), 677-695. doi: 10.2307/3586989
- Connor, U. (1990). Linguistic/rhetorical measures for international persuasive student writing. *Research in the Teaching of English*, 24, 67-87.
- Connor, U. (1996). *Contrastive rhetoric: Cross-cultural aspects of second language writing*. Cambridge: Cambridge University Press.
- Connor, U. (2002). Contrastive rhetoric and academic writing: Multiple texts, multiple identities. *Forum: Applied Linguistics Newsletter*. Paper presented at the American Association of Applied Linguistics Conference. March 2002, Salt Lake City, Utah
- Creswell, J.W., & Plano Clark, V. L. (2007). *Designing and conducting mixed methods research*. Los Angeles: Sage Publications Inc.
- Crotty, M. (1998). *Social research method*. Oxford: Oxford University Press.
- Crotty, M. (2003). *The foundations of social research*. Thousand Oaks, CA: Sage Publications.
- Crowley, S. (1998). *Composition in the university: Historical and polemical essays*. Pittsburgh, PA: University of Pittsburgh Press.
- Cumming, A. (1989). Writing expertise and second-language proficiency. *Language Learning*, 39 (1), 81-141. doi: 10.1111/j.1467-1770.1989.tb00592.x
- Cumming, A. (1990). Metalinguistic and ideational thinking in second language composition. *Written Communication*, 7,482-511. Retrieved from <http://wcx.sagepub.com/content/7/4/482.full.pdf+html>
- Cumming, A. (1998). Theoretical perspectives on writing. *Annual Review of Applied Linguistics*, 18, 61-78.

- Davies, F. (1988). Designing a writing syllabus in English for academic purposes: Process and product. In P. Robinson (Ed.), *Academic writing: Process and product (ELT Documents 129)*, pp. 130–142). London: Modern English Publications/British Council.
- Davies, W. M., (2003), ‘A cautionary note about the teaching of critical reasoning’, *Higher Education Research and Development Society of Australia (HERDSA), Learning for an Unknown Future. 2-9th July, 2003, Christchurch, New Zealand*. Retrieved from <http://www.herdsa.org.au/wp->
- Denzin, N. K., & Lincoln Y. S. (2011). *The Sage handbook of qualitative research*. Sage Publications: California, USA.
- Derewianka, B. (1990). *Exploring how texts work*. NSW: Primary English Teaching Association.
- Derewianka, B. (2003). Trends and issues in genre-based approaches. *RELC Journal*, 34 (2), 133–154. Retrieved from <http://rel.sagepub.com/content/34/2/133.full.pdf+html>
- Devitt, A. J. (2004). *Writing genres*. Carbondale, IL: Southern Illinois University Press.
- Dias, P. (1994). Initiating students into the genres of disciplines-based reading and writing. In A. Freedman & P. Medway (Eds), *Learning and teaching genre* (pp.193-206). Portsmouth, NH: Boynton/ Cook.
- Doushaq, N. (1986). An investigation into stylistic errors of Arab students learning English for Academic purposes. *English for Specific Purposes*, 5, 27 -39.
- Driver, R., Newton, P., & Osborne, J. (2000). Establishing the norms of scientific argumentation in classrooms. *Science Education*, 84(3), 287-312.
- Dudley Evans, T. (2001). English for specific purposes. In R. Carter & D. Nunan (Eds.) *The Cambridge guide to teaching English to speakers of other languages* (pp. 131-136). Cambridge. Cambridge University Press. Retrieved from <http://dx.doi.org/10.1017/CBO9780511667206.020>
- Dudley- Evans, A. (1995), Genre models for the teaching of academic writing to second language speakers: advantages and disadvantages. *The Journal of TESOL France*, 2(2): 181-192.
- Dudley-Evans, T. (1997). Genre models for the teaching of academic writing to second language speakers: advantages and disadvantages. In Miller, T. (Ed.), *Functional Approaches to Written Text: Classroom Applications*. Washington DC: United States Information Agency.
- Dyer, B. (1996). L1 and L2 composition theories: Hillocks’ “environmental mode” and task-based language teaching. *ELT Journal*, 50(4), 312-317. Retrieved from <http://eltj.oxfordjournals.org/content/50/4/312.full.pdf+html>

- Eemeren, F.H. van & R. Grootendorst (2004). *A systematic theory of argumentation: The pragma-dialectical approach*. Cambridge: Cambridge University Press.
- El-Aswad, A. (2002). *A study of the L1 and L2 writing processes and strategies of Arab learners with special references to third-year Libyan university students*. Unpublished PhD thesis, University of Newcastle, Newcastle University library, UK.
- Elbow, P. (1981). *Writing with Power: Techniques for mastering the writing process*. New York: Oxford UP.
- Elbow, P. (1973). *Writing without teachers*. New York: Oxford University Press.
- El-Daly, M. H. (1991). *A contrastive analysis of the writing proficiency of Arabic and Spanish speakers: Linguistic, cognitive, and cultural perspectives*. Unpublished Doctoral Dissertation, University of Pittsburgh.
- El-Hibir, B., & Al-Taha, F. (1992). Orthographic errors of Saudi students learning English, *Language Learning Journal*, 5(1), 85-87.
- Elkhatib, A. (1984). *Case studies of four Egyptian college freshmen writers majoring in English (Arabic-speaking, EFL/ESL)*. Unpublished PhD Thesis. Columbia University, USA.
- Ellis, R. (2000) 'Task-based research and language pedagogy', *Language Teaching Research*, 4 (3), 193-220.
- El-Mortaji, L. (2001). *Writing Ability and Strategies in Two Discourse Types: A Cognitive Study of Multilingual Moroccan University Students Writing in Arabic (L1) and English (L3)*. Unpublished PhD thesis, University of Essex.
- El-Seidi, M. (2000). Metadiscourse in English and Arabic argumentative writing: A cross-linguistic study of texts written by American and Egyptian university students. In: I. Zeinab, S. Aydelott and N. Kassabg (Eds.). *Diversity in language: Contrastive studies in Arabic and English theoretical and applied linguistics*, (pp. 111–126). Cairo: The American University Press.
- Emig, J. (1971). *The composing processes of twelfth graders*. Urbana IL: National Council of Teachers of English.
- Englert, C. S., Raphael, T. E., & Anderson, L. M. (1992). Socially mediated instruction: Improving students' knowledge and talk about writing. *The Elementary School Journal*, 92 (4), 411-449.
- Eskin, H., & Bekiroglu, F. O. (2009). Investigation of a pattern between students' engagement in argumentation and their science content knowledge: A case study. *Eurasia Journal of Mathematics, Science and Technology Education*, 5(1), 63-70.

- Ezza, E. (2010). Arab EFL learners' writing dilemma at tertiary level. *English Language Teaching*, 3(4), 33–39. Retrieved from <http://ccsenet.org/journal/index.php/elt/article/view/37008>
- Facione, P. A. (2007). *Critical thinking: What it is and why it counts*. Millbrae, CA: The California Academic Press. Retrieved from http://www.student.uwa.edu.au/__data/assets/pdf_file/0003/1922502/Critical-Thinking-What-it-is-and-why-it-counts.pdf
- Fageeh, A. I. (2004). Saudi college students' beliefs regarding their English writing difficulties. *DAI-A*, 64(11), 40-35.
- Fahim, M. & Mirzaiee, M. (2013). Improving EFL argumentative writing: A dialogic critical thinking approach. *International Journal of Research Studies in Language Learning*, 3(1), 3-20.
- Faigley, L. (1986). Competing Theories of Process: A critique and a proposal. *College English*, 48(6), 527-54. Retrieved from <http://academic.brooklyn.cuny.edu/english/moser/eng%207506/Faigley--Competing%20Theories%20of%20Process.pdf>
- Fakhri, A. (2004). Rhetorical properties of Arabic research article introductions. *Journal of Pragmatics* 36, 1119–1138. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0378216603001917>
- Felton, M. K. (2004). The development of discourse strategies in adolescent argument. *Cognitive Development*, 19(1), 35-52.
- Ferris, D. R. (2007). Preparing teachers to respond to student writing. *Journal of Second Language Writing*, 16(3), 165–193. Retrieved from: <http://comphacker.org/pdfs/431/ferrisresponse.pdf>
- Ferris, D.R., & Hedgcock, J.S. (2005). *Teaching ESL composition: Purpose, process, and practice*. New Jersey: Lawrence Erlbaum Associates.
- Fitzgerald, J. (1987). Research on revision in writing. *Review of Educational Research*, 57(4), 481- 506. Retrieved from <http://rer.sagepub.com/content/57/4/481>.
- Flower, L. (1994). *The construction of negotiated meaning: A social cognitive theory of writing*. Carbondale: Southern Illinois University Press.
- Flower, L., & Hayes, J. R. (1977). Problem solving strategies and the writing process. *College English*, 39, 449-461. Retrieved from <http://dx.doi.org/10.2307/375768>
- Flower, L., & Hayes, J. (1981). A cognitive process theory of writing. *College Composition and Communication*, 32(4), 365-387.
- Flowerdew, J. (1993). An educational or process, approach to the teaching of professional genre. *ELT Journal* 47(4), 305-316.
- Flowerdew, J., & Peacock, M. (2001). The EAP curriculum: Issues, methods, and challenges. In J. Flowerdew & M. Peacock. Research

- perspectives on English for Academic Purposes. (pp. 177-194).
Cambridge: Cambridge University Press.
- Freedman, A. & Medway, P. (1994). "Do as I say": The relationship between teaching and learning new genres. In A. Freedman & P. Medway (Eds.), *Genre and the new rhetoric* (pp.191-210). London: Taylor& Francis.
- Freire, P. (1998). *Pedagogy of freedom: Ethics, democracy, and civic courage*. Rowman & Littlefield Publishers, Inc, Maryland, USA.
Retrieved from
https://books.google.com.au/books?id=XbOv4eTFSdEC&printsec=frontcover&source=gbv_ViewAPI&redir_esc=y#v=onepage&q&f=false
- Fries, C. C. (1945). *Teaching and learning English as a foreign language*. Ann Arbor, University of Michigan Press.
- Frith, J. (2006). *A process genre approach to writing transactional letters*. Retrieved from [http://www. Developing Teachers. com](http://www.DevelopingTeachers.com)
- Fujieda, Y. (2006). A brief historical sketch of second language writing studies: A retrospective. Retrieved from
<http://www.kyoai.ac.jp/college/ronshuu/no-06/fujieda.pdf>
- Gabrielatos, C. (2002). *EFL writing: Product and process*. ERIC, ED476839. Retrieved from <http://www.gabrielatos.com/Writing.pdf>.
- Gao, J. (2007). Teaching writing in Chinese universities: Finding an eclectic approach. *Asian EFL Journal of English Language Teaching and Research articles*, 20(2), 285-297.
- Gass, S.M., & Mackey, A. (2000). *Stimulated recall methodology in second language research*. Mahwah, NJ: Lawrence Erlbaum.
- Gee, S. (1997). Teaching writing: A genre-based approach. In G. Fulcher (Ed.), *Writing in the English language classroom* (pp. 24–40). Hertfordshire, UK: Prentice Hall Europe ELT.
- Gibbons, P. (2002). *Scaffolding language and scaffolding learning: Teaching second language learners in the mainstream classroom*. Portsmouth, NH: Heinemann.
- Grab, E. (2008). Dynamic assessment as a teaching tool: Assessment for learning and learning for assessment. *English Teacher Network*. Retrieved from http://www.etni.org.il/etnirag/issue2/erica_garb.htm
- Grabe, W. (2003). Reading and writing relations: Second language perspectives on research and practice. In B. Kroll (Ed.), *Exploring the dynamics of second language writing* (pp. 242-262). Cambridge, England: Cambridge University Press.
- Grabe, W., & Kaplan, R.B. (1996). *Theory and practice of writing: An applied linguistic perspective*. London: Longman.

- Graham, S. (2006). Strategy instruction and the teaching of writing: A meta-analysis. In C. A. MacArthur, S. Graham, & J. Fitzgerald (Eds.), *Handbook of writing research* (pp. 187-207). New York: Guilford.
- Grant, L., & Ginther, L. (2000). Using computer-tagged linguistic features to describe L2 writing differences. *Journal of Second Language Writing*, 9(2), 123-145.
- Gray, D., & Bryce, T. (2006). Socio-scientific issues in science education: Implications for the professional development of teachers. *Cambridge Journal of Education*, 36(2), 171-192. Retrieved from <http://www.tandfonline.com/doi/pdf/10.1080/03057640600718489>
- Greene, J. C., Caracelli, V-J., & Graham, W. F. (1998). Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis*, 11(3), 255-274.
- Green, A., & Weir, C. (2003). Monitoring score gain on the IELTS academic writing module in EAP programmes of varying duration. *Phase 2 report. Cambridge: UCLES*.
- Grix, J. (2004). *The foundations of research*. London: Palgrave Macmillan.
- Guk, L., & Kellogg, D. (2007). The ZPD and whole class teaching: Teacher-led and student-led interactional mediation of tasks. *Language Teaching Research*, 11 (3), 281-299.
- Halimah, A.M. (2001). *EST writing: rhetorically processed and produced: A cast study of Kuwaiti learners*. Unpublished Doctoral Thesis, University of Essex.
- Halliday, M. A. K. (1978). *Language as social semiotic*. London: Edward Arnold.
- Halliday, M. A. K., McIntosh, A., & Stevens, P. (1964). The users and uses of language. In J.J. Webster, (Ed.) *Language and Society*. Volume 10 in the *Collected Works of M.A.K. Halliday* (pp. 5-37). London and New York: Continuum.
- Halliday, M.A.K. & Hasan, R. (1985). *Language, context and text: Aspects of language in a social semiotic perspective*. Deakin University Press/OUP: Oxford.
- Halliday, M.A.K. (1994). *An introduction to functional grammar*. London: Edward Arnold.
- Hamp-Lyons, L., & Henning, G. (1991). Communicative Writing Profiles: An Investigation of the Transferability of a Multiple-Trait Scoring Instrument across ESL Writing Assessment Contexts. *Language Learning*, 41(3), 337-373. Retrieved from: <http://onlinelibrary.wiley.com/doi/10.1111/j.1467-1770.1991.tb00610.x/epdf>
- Hanson W, Creswell J., Plano Clark V., Petska, K., & Creswell, J. D. (2005). Mixed methods research designs in counselling psychology. *Journal of Counselling Psychology* 52(2), 224-235.

- Harb, I. (2008). *Higher Education and the Future of Iraq*. United States Institute of Peace. Washington. Retrieved from www.unip.org.
- Hasan, M., Akhand, M., (2010). Approaches to writing in EFL/ESL context: Balancing product and process in writing class at tertiary level. *Journal of NELTA*, 15(1-2), 77-88. doi: 10.3126/nelta.v15i1-2.4612.
- Hasan, R. (1985). *Linguistics, language and verbal art*. Geelong: Deakin University Press.
- Hatim, B. (1990). A model of argumentation from Arabic rhetoric: insights for a theory of text types. *British Society for Middle Eastern Studies. Bulletin*, 17(1), 47-54. Retrieved from <http://dx.doi.org/10.1080/13530199008705505>
- Hayes, J. R. and Flower, L. S. (1980). The dynamics of composing. In L.W. Gregg & E. R. Steinberg (Eds.) *Cognitive Processes in Writing*. Hillsdale, NJ: Lawrence Erlbaum Assoc., Pub.
- He, J. (2009). *Applying contemporary western composition pedagogical approaches in university EFL writing context: A case study of a writing workshop at a Chinese University*. Unpublished Doctoral Dissertation. Indiana University of Pennsylvania. UMI Number: 3359971.
- Hedge, T. (2005). *Writing*. Oxford: Oxford University Press.
- Henry, A., & Roseberry, R. L. (2001). An evaluation of a genre-based approach to the teaching of EAP/ESP writing. *ESOL Quarterly*, 32(1), 147-56.
- Hinkel, E. (2002). *Second language writers' text: Linguistic and rhetoric features*. Mahwah, N.J.: Lawrence Erlbaum Associates.
- Hirose, K. (2003). Comparing L1 and L2 organizational patterns in the argumentative writing of Japanese EFL students. *Journal of Second Language Writing*, 12(2), 181–209.
- Hirose, K., & Sasaki, M. (1994). Explanatory variables for Japanese students' expository writing in English: An exploratory study. *Journal of Second Language Writing*, 3, 203–229. Retrieved from http://ac.els-cdn.com/1060374394900175/1-s2.0-1060374394900175-main.pdf?_tid=49fb2a28-1959-11e5-ad30-00000aabb0f6c&acdnat=1435030878_e11802c574425926650b8f4f1abcddb
- Holton, D., & Clarke, D. (2006). Scaffolding and metacognition. *International Journal of Mathematical Education*, 22(1), 17-35.
- Hopkins, A., & Dudley-Evans. T. (1988). A genre-based investigation of the discussion section in articles and dissertations. *English for Specific Purposes*, 7, 113–122. Retrieved from http://ac.els-cdn.com/0889490688900294/1-s2.0-0889490688900294-main.pdf?_tid=68427f72-195e-11e5-8b83-00000aacb35e&acdnat=1435033077_9563f7fc7cd2dc89cabbb40d4bd7c78f

- Horowitz, D. (1986). What professors actually require: Academic tasks for the ESL classroom. *TESOL quarterly*, 20(3), 445-462. Retrieved from http://www.jstor.org/stable/3586294?seq=1#page_scan_tab_contents
- Hu, G. W. (2007). Developing an EAP writing course for Chinese ESL students. *RELC Journal*, 38, 67-86.
- Hu, G. W., & Chen, B. (2007). A protocol-based study of university-level Chinese EFL learners' writing strategies. *English Australia Journal*, 23(2), 37-35.
- Hunt, R.A. (1994). Traffic in genres, in classrooms and out. In A. Freedman & P. Medway (Eds), *Genre and the new rhetoric* (pp.211-230). London: Taylor & Francis. Retrieved from <http://www.stthomasu.ca/~hunt/traffic.htm>
- Hyland, K. (1990). A genre description of the argumentative essay, *RELC Journal*, 21(1), 66-78. Retrieved from <http://rel.sagepub.com/content/21/1/66.full.pdf+html>
- Hyland, K. (2002). Genre: Language, context, and literacy. *Annual Review of Applied Linguistics* 22, 113–35.
- Hyland, K. (2003). Genre-based pedagogies: A social response to process. *Journal of Second Language Writing*, 12, 17-29.
- Hyland, K. (2004). *Genre and second language writing*. University of Michigan Press. Ann Arbor, Michigan, USA.
- Hyland, K. (2007). Genre pedagogy: Language, literacy and L2 writing instruction. *Journal of Second Language Writing*, 16, 148–164.
- Hyland, K. (2008). Genre and academic writing in the disciplines. *Language Teaching*, 41(4), 543-562.
- Hyon, S. (1996). A Genre in three traditions: Implications for ESL. *TESOL Quarterly*, 30 (4), 693-722. Retrieved from <http://onlinelibrary.wiley.com/doi/10.2307/3587930/epdf>
- Jacobs, H. L., Zinkgraf, S. A., Wormuth, D. R., Hartfiel, V. F., & Hughey, J. B. (1981). *Testing ESL composition: A practical approach*. Rowley, MA: Newbury House.
- Johns, A.M. (1997). *Text, role and context: Developing academic literacies*. New York: Cambridge: Cambridge University Press.
- Johns, A.M. (2001). An interdisciplinary, inter-institutional, learning communities program: Student involvement and student success. In I. Leki, (Ed.). *Academic writing programs* (pp. 61-72). Alexandria, VA: TESOL.
- Johns, A.M. (2003) Genre in the ESL/EFL composition instruction. In Kroll, B. (Ed.). *Exploring the dynamics of second language writing* (pp. 195-217). New York: Cambridge University Press.

- Johns, A. M. (2011). The future of genre in L2 writing: Fundamental, but contested, instructional decisions. *Journal of Second Language Writing*, 20(1), 56-68. Retrieved from <http://dx.doi.org/10.1016/j.jslw.2010.12.003>.
- Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33(7), 14-26.
- Johnson, R. B., & Turner, L. A. (2003). Data collection strategies in mixed methods research. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 297-319). Thousand Oaks, CA: Sage.
- Johnson, R., B, Onwuegbuzie, A, J, Turner. L, A. (2007). Toward a definition of mixed methods research. *Journal of Mixed Methods Research*, 1(2), 112-133.
- Johnstone, B (1990). Orality and discourse structure in Modern Standard Arabic. In M. Eid, (Ed.), *Perspectives on Arabic Linguistics I*. J. Benjamins, Amsterdam, Philadelphia, pp. 215–233.
- Jones, C. S., & Tetroe, J. (1987). Composing in a second language. In A. Matsuhashi (Ed.), *Writing in real time: Modelling the production processes* (pp. 34-57). Norwood, New Jersey: Ablex.
- Jordan, R. R. (1989). English for academic purposes (EAP). *Language Teaching*, 22, 150-164. Retrieved from <http://journals.cambridge.org/action/displayFulltext?type=1&fid=2779948&jid=LTA&volumeId=22&issueId=03&aid=2779940&bodyId=&membershipNumber=&societyETOCSession=>
- Kamel, S.A. (2000). Categories of comprehension in argumentative discourse: A cross-linguistic study. In I. Zeinab, S. Aydelott & N. Kassabgy (Eds). *Diversity in language: Contrastive studies in Arabic and English theoretical and applied linguistics* (pp. 193–235). Cairo: The American University in Cairo Press.
- Kaplan, R. B. (1966). Cultural thought patterns in intercultural communication. *Language Learning*, 16(1-2), 1-20. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1111/j.1467-1770.1966.tb00804.x/epdf>
- Kaplan, R. B. (1967). Contrastive rhetoric and the teaching of composition. *TESOL Quarterly*, 1(4), 10–16. Retrieved from <http://www.jstor.org/stable/3585808>
- Kern, R. (2000). *Literacy and language teaching*. Hong Kong: Oxford University Press.
- Khalil, A. (1985). Communicative Error Evaluation: Native Speakers' Evaluation and Interpretation of Written Errors of Arab EFL Learners, *TESOL Quarterly*, 19(2), 335-351. Retrieved from <http://www.jstor.org/stable/3586833>

- Kharma, N. & Hajjaj, A. (1989). *Errors in English among Arabic speakers: Analysis and remedy*. Longman Group UK Limited.
- Kilinc, A., Afacan, O., Polat, D., Olat Demirci, P., Guler, K., Yildirim, O.; Demiral, B.; Eroglu, T.; Kartal, S.; Sonmez, A.; Iseri, B.; Gorgulu, O. (2014). Preservice Science Teachers' Belief Systems about Teaching a Socioscientific Issue. *Journal of Turkish Science Education*, 11(3), 79-102. doi: 10.12973/tused.10120a.
- Kim, Y. & Kim, J. (2005). Teaching Korean university writing class: Balancing the process and the genre approach. *Asian EFL Journal Online*, 7(2), 69- 90. Retrieved from http://www.asian-efl-journal.com/June_05_yk&jk.php.
- Kintsch, W. (1988). The use of knowledge in discourse processing: A construction-integration model. *Psychological Review*, 95, 163-182. Retrieved from http://www.texai.org/papers/Kintsch_1988.pdf.
- Knudson, R. E. (1992). The development of written argumentation: An analysis and comparison of argumentative writing at four grade levels. *Child Study Journal*, 22 (3), 167-185.
- Kobayash, H., & Rinnert, C. (2008). Task responses and task construction across L1 and L2 writing. *Journal of Second Language Writing*, 17(1), 7-29.
- Kobayashi, H., & Rinnert, C. (1992). Effects of first language on second language writing: Translation vs. direct composition. *Language Learning*, 42(2), 183–215. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1111/j.1467-1770.1992.tb00707.x/epdf>
- Kostouli, T. (2005). Making social meanings in contexts. In T. Kostouli (Ed.), *Writing in context(s). Textual practices and learning processes in sociocultural settings* (pp. 1–26). New York: Springer.
- Kozulin, A. (2003). Psychological tools and mediated learning. In A. Kozulin, B. Gindis, V. Ageyev & S. Miller (Eds.), *Vygotsky's educational theory in cultural context* (pp. 15- 38). Cambridge: Cambridge University Press.
- Kress, G. (1985). *Linguistic processes in sociocultural practice*. ECS806 Socio-cultural aspects of language and education. Victoria, Geelong: Deakin University.
- Kroll, B. (2001). Considerations for teaching an ESL/EFL writing course. In M. Celce-Murcia (Ed.), *Teaching English as a second or foreign language* (3rd ed.) (pp. 219-232). Boston, MA: Heinle and Heinle.
- Kroll, B. (Ed.). (1990). *Second Language Writing: Research Insights for the Classroom*. Cambridge University Press, New York, NY 10011.
- Kuhn, D. (1991). *The skills of argument*. Cambridge: Cambridge University Press.

- Kuhn, D. (1992). Thinking as argument. *Harvard Educational Review*, 62(2), 155-178.
- Kuhn, D. (1993). Science as argument: Implications for teaching and learning scientific thinking. *Science Education*, 77(3), 319-337.
Retrieved from <http://onlinelibrary.wiley.com/doi/10.1002/sce.3730770306/abstract>.
- Lang, D. (2000). Critical thinking in web courses: An oxymoron? *Syllabus*, 14(2), 20-24.
- Langer, J.A. (1984). Examining background knowledge and text comprehension. *Reading Research Quarterly*, 19(4), 468-481.
Retrieved from <http://www.jstor.org/stable/747918>
- Lantolf, J. P. (2006) 'Sociocultural theory and L2', *Studies in second language acquisition*, 28(1), pp. 67-109.
- Lantolf, J. P. and Thorne, S. L. (2006). *Sociocultural theory and the genesis of second language development*. New York: Oxford University Press.
- Lantolf, J.P. (2009). Knowledge of language in foreign language teacher education. *The Modern Language Journal*, 93 (2), 270-274.
- Larkin, M. 2002. *Using scaffolded instruction to optimize learning*. ERIC Digest. ERIC Clearinghouse on Disabilities and Gifted Education Arlington VA. Retrieved from <http://files.eric.ed.gov/fulltext/ED474301.pdf>
- Luria, A. (1979). *The Making of Mind: A Personal Account of Soviet Psychology*. Cambridge, Mass., Harvard University Press.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.
- Lawson, L. (2002). *Scaffolding as a teaching strategy*. Paper presented in course EDUC 0500, Adolescent Learning and Development, City College of New York City Retrieved from condor. admin. ccny.cuny.edu/group4.
- Lay, N. (1982). Composing processes of adult ESL learners. A case study. *TESOL Quarterly*, 16 (2), 406-407.
- Lei X. (2008). Exploring a sociocultural approach to writing strategy research: Mediated actions in writing activities. *Journal of Second Language Writing*, 17, 217-236.
- Leki, I. (1992). *Understanding ESL Writers: A Guide for Teachers*. Portsmouth, NH. Boynton / Cook Publishers. Inc
- Levinson, R. (2004) Teaching bioethics in Science: crossing a bridge too far? *Canadian Journal of Science, Mathematics and Technological Education*, 4(3), pp 353-370.
- Liebman, J.D. (1992). Toward a new contrastive rhetoric: differences between Arabic and Japanese rhetorical instruction. *Journal of Second*

- Language Writing 1*, 141–165. Retrieved from <http://www.sciencedirect.com/science/article/pii/S106037439290013F>
- Lillis, T. & Turner, J. (2001). Student writing in higher education: contemporary confusion, traditional concerns. *Teaching in Higher Education*, 6(1), 57-68. Retrieved from <http://www.tandfonline.com/doi/pdf/10.1080/13562510020029608>
- Lindemann, E. (1995). *A rhetoric for writing teachers* (3rd ed.). New York: Oxford University Press.
- Macken-Horarik, M. (2002). "Something to shoot for": A systemic functional approach to teaching genre in secondary science. In A.M. Johns (Ed.), *Genre in the classroom: Multiple perspectives* (pp. 17-42). Mahwah, NJ; London: Lawrence Erlbaum Associates.
- Mansoor, F. & Mostafa, M. (2013). Improving EFL argumentative writing: A dialogic critical thinking approach. *International Journal of Research Studies in Language Learning* 3, 1, 3-20.
- Martin, J. R. (1985). Process and text: two aspects of human semiosis. In J. D., Benson & W.S., Greaves. (Eds.), *Systemic perspectives on discourse, Vol.1: Selected theoretical papers from the 9th International Systemic Workshop*, (pp. 248-274). Norwood, N.J.: Ablex.
- Martin J. R. and Rothery, J. (1980) *Writing Project Report No. 1, Working Papers in Linguistics, No. 1*, Sydney: Linguistics Department, University of Sydney.
- Martin, J. R. and Rose, D. (2003). *Working with Discourse: Meaning Beyond the Clause*. London: Continuum.
- Martin, J. (2009). Genre and Language Learning: A social semiotic perspective. *Linguistics and Education* 20, 10-21.
- Martin, J.R. (1992). *English Text: System and Structure*. Amsterdam: John Benjamins.
- Matsuda, P. K. (1999). Composition studies and ESL writing: A disciplinary division of labour. *College Composition and Communication*, 50 (4). Retrieved from <http://www.jstor.org/stable/358488>
- Matsuda, P. K. (2005). Historical inquiry in second language writing. In P. K. Matsuda & T. Silva (Eds.), *Second language writing research: Perspectives on the process of knowledge construction* (pp. 33-46). Mahwah, NJ: Lawrence Erlbaum Associates.
- Matsuda, P. K., Canagarajah, A. S., Harklau, L., Hyland, K., & Warschauer, M. (2003). Changing currents in second language writing research: A colloquium. *Journal of Second Language Writing*, 12 (2), 151-179. Retrieved from http://www.education.uci.edu/person/warschauer_m/docs/currents.pdf

- Matsuda, P.K. (2003). Process and post-process: A discursive history. *Journal of Second Language Writing*, 12 (1), 65-83.
- Means, M. L., & Voss, J. F. (1996). Who reasons well? Two studies of informal reasoning among children of different grade, ability, and knowledge levels. *Cognition and Instruction*, 14(2), 139 - 178.
Retrieved from
http://www.tandfonline.com/doi/pdf/10.1207/s1532690xci1402_1
- Mellow, J. D. (2002). Towards principled eclecticism in language teaching: The two-dimensional model and the centring principle. *TESL-EJ*, 5(4), A-1.
- Mercer, N., & Fisher, E. (1997). Scaffolding through talk. In R. Wegerif & P. Scrimshaw, (Eds.), *Computers and talk in the primary classroom* (pp.196-210). Clevedon: Multilingual Matters.
- Mercer. (2009). Developing Argumentation: Lessons Learned in the Primary School. In N. Muller Mirza and A.-N. Perret-Clermont (eds.), *Argumentation and Education: Theoretical Foundations and Practices* (pp.177-194). doi: 10.1007/978-0-387-98125-3_7.
- Metz, K. E. (1995). Reassessment of developmental constraints on children's science instruction. *Review of Educational Research*, 65, 93-127. Retrieved from
<http://rer.sagepub.com/content/65/2/93.full.pdf+html>
- Miller, C. R. (1984). Genre as social action. *Quarterly Journal of Speech*, 70, 151-167. Retrieved from <http://www.english.illinois.edu/-people-/faculty/schaffner/teaching/fall2010/505/readings/Miller.Genre%20as%20Social%20Action.pdf>
- Mitchell, R. & Myles, F. (2004) *Second Language Learning Theories*. 2nd ed. London: Hodder Arnold.
- Morrow, S. L. (2007). Qualitative research in Counseling Psychology: Conceptual foundations. *The Counseling Psychologist*, 33(2), 209 – 235.
- Moskal, B. M., & Leydens, J. A. (2000). Scoring rubric development: validity and reliability. *Practical Assessment, Research & Evaluation*, 7(10). Retrieved from <http://PAREonline.net/getvn.asp?v=7&n=10>.
- Muncie, J. (2002). Finding a place for grammar in EFL composition classes. *ELT Journal*, 56 (2), 180-186. doi: 10.1093/elt/56.2.180.
- Murray, D. M. (1978). Internal revision: A process of discovery. In Cooper, C., R. & Le e O (Eds.), *Research on composing: Points of departure* (pp. 85-104). Urbana, IL: National Council of Teachers of English.
- Murray, D.M. (1985). *A writer teaches writing*. Boston, MA: Houghton Mifflin Company.
- Myles, J. (2002). Second language writing and research: The writing process and error analysis in student texts. *TESL-EJ*, 6(2), 1-20.

- Newton, P., Driver, R., & Osborne, J. (1999). The place of argumentation in the pedagogy of school science. *International Journal of Science Education*, 21(5), 553-576.
- Nimehchisalem, V. (2010). Developing an analytic scale for argumentative writing of students in a Malaysian public university. Unpublished Doctoral Dissertation. Universiti Putra Malaysia, Serdang, Malaysia.
- Nussbaum, E. M. (2008). Using argumentation vee diagrams (AVDs) for promoting argument/counterargument integration in reflective writing. *Journal of Educational Psychology*, 100, 549-565. Retrieved from <http://www.academia.edu/4387459>
- Ouaouicha, D. (1986). Contrastive rhetoric and the structure of learner-produced argumentative texts in Arabic and English. Unpublished Doctoral dissertation, University of Texas, Austin, TX.
- Paltridge, B. (1997). *Genre, frames and writing in research settings*. Amsterdam and Philadelphia: John Benjamins.
- Paltridge, B. (2001). *Genre and the Language Learning Classroom*. Ann Arbor: University of Michigan Press.
- Paltridge, B. (2002). Genre, text type, and the English for Academic Purposes (EAP) classroom. In A. Johns (Ed.). *Genre in the classroom: Multiple perspectives* (pp. 73–90). Mahwah, NJ: Lawrence Erlbaum.
- Paltridge, B. (2004). Approaches to Teaching Second Language Writing. *Paper presented in 17th Educational Conference Adelaide 2004, University of Sydney*. Retrieved from http://www.englishaustralia.com.au/ea_conference04/proceedings/pdf/Paltridge.pdf
- Patai, R. (1983). *The Arab Mind*. New York: Charles Scribner's Sons.
- Patton, M. Q. (1990). *Qualitative evaluation and research methods* Newbury Park, CA: Sage Publications.
- Pea, R. D. (2004). The social and technological dimensions of "scaffolding" and related theoretical concepts for learning, education and human activity. *The Journal of the Learning Sciences*, 13(3), 423-451.
- Pennington, M., & So, S. (1993). Comparing writing process and product across two languages: A study of 6 Singaporean University student writers. *Journal of Second Language Writing*, 2(1), 41–63.
- Perkins, D. N. & Salomon, G. (1989). Are cognitive skills context-bound? *Educational Researcher*, 18(1), 16-25. Retrieved from http://www4.ncsu.edu/~jlnietfe/EDP504_Notes_files/Are%20Cognitive%20Skills%20Context%20Bound.pdf
- Poehner, M. E. (2009). Group dynamic assessment: Mediation for the L2 classroom. *TESOL Quarterly*, 43(3), 471-491.

- Poehner, M. E., & Lantolf, J. P. (2010). Vygotsky's teaching-assessment dialectic and L2 education: The case for dynamic assessment. *Mind, Culture, and Activity. An International Journal*, 17, 312-330.
- Porte, G. (1996). When writing fails: How academic context and past learning experiences shape revision. *System*, (24), 107-116.
- Prain, V. (2006). Learning from Writing in School Science: Some Theoretical and Practical Implications. *International Journal of Science Education*, 28, 2-3, 179-201.
- Pring, R. (2000) *Philosophy of educational research*, London: Continuum.
- Prior, P. & Shipka, J. (2003). Chronotropic lamination: tracing the contours of literate activity. In C. Bazerman & D. Russell (Eds.), *Writing selves, writing societies* (pp. 180-238). Fort Collins: The WAC Clearinghouse. Retrieved from http://wac.colostate.edu/books/selves_societies/prior/
- Prior, P. (2006). A sociocultural theory of writing. In C. A. MacArthur, S. Graham, & J. Fitzgerald (Eds.), *Handbook of writing research* (pp. 54-66). New York, Guilford Press. Retrieved from [https://books.google.com.au/books?hl=en&lr=&id=LZc5x89yKicC&oi=fnd&pg=PA54&dq=Prior,+P.+\(2006\).+A+sociocultural+theory+of+writing.&ots=6826isHoRf&sig=EWbPep52GnPq3WfW2rZpVRt4vRo#v=onepage&q&f=false](https://books.google.com.au/books?hl=en&lr=&id=LZc5x89yKicC&oi=fnd&pg=PA54&dq=Prior,+P.+(2006).+A+sociocultural+theory+of+writing.&ots=6826isHoRf&sig=EWbPep52GnPq3WfW2rZpVRt4vRo#v=onepage&q&f=false)
- Ramanathan, V. & Kaplan, R.B. (2000). Genres, authors, discourse communities: Theory and application for (L1 and) L2 writing instructors. *Journal of Second Language Writing*, 9(2): 171-191.
- Raimes, A. (1983). Tradition and revolution in ESL teaching. *TESOL Quarterly*, 17, 535-552. Retrieved from <http://www.jstor.org/stable/3586612>
- Raimes, A. (1985). What unskilled ESL students do as they write: A classroom study of composing. *TESOL Quarterly*, 19(2), 229-258. Retrieved from <http://www.jstor.org/stable/3586828>
- Raimes, A. (1987). Language proficiency, writing ability and composing strategies: A case study of ESL college student writers. *Language Learning*, 37, 439-468.
- Ramanathan, V., & Kaplan, R. B. (2000). Genres, authors, discourse communities: Theory and application for (L1 and) L2 writing instructors. *Journal of Second language writing*, 9, 171-191.
- Raymond, E. (2000). Cognitive Characteristics. In E. Raymond & C., DeCoursey (Eds.). *Learners with mild disabilities* (pp. 169-201). Needham Heights, MA: Allyn & Bacon, A Pearson Education Company.
- Reid, J. M. (2001). The Cambridge guide to teaching English to speakers of other languages. In R. Cater & D. Nunan (Eds.), *Writing* (pp.23-33). Cambridge: Cambridge University Press.

- Reznitskaya, A., Anderson, R. C., McNurlen, B., Nguyen-Jahiel, K., Archodidou, A., & Kim, S. (2001). Influence of oral discussion on written argument. *Discourse Processes*, 32(2 & 3), 155-175.
- Richards, J. C., & Schmidt, R. (2010). *Longman dictionary of language teaching and applied linguistics*. London: Longman (Pearson Education).
- Roca de Larios, J., Marin, J., & Murphy, L. (2001). A temporal analysis of formulation processes in L1 and L2 writing. *Language Learning*, 51, 497-538.
- Sa'adeddin, M.A. (1989). Text development and Arabic-English negative interference. *Applied Linguistics*, 10(1), 36-51. Retrieved from <http://applij.oxfordjournals.org/content/10/1/36.full.pdf+html>
- Sadi, F., & Othman, J. (2012). An investigation into writing strategies of Iranian EFL undergraduate learners. *World Applied Sciences Journal*, 18(8), Retrieved from 1148-1157. [http://idosi.org/wasj/wasj18\(8\)12/18.pdf](http://idosi.org/wasj/wasj18(8)12/18.pdf)
- Sadler, T. (2004). Informal reasoning regarding socio-scientific issues: A critical review of the research. *Journal of Research in Science Teaching*, 41, 513-536.
- Sadler, T. D. & Zeidler, D. L. (2005a). Patterns of informal reasoning in the context of socio-scientific decision making. *Journal of Research in Science Teaching*, 42(1), 112-138. doi: 10.1002/tea.20042
- Sadler, T. D. & Zeidler, D.L. (2005b). The significance of content knowledge for informal reasoning regarding socio-scientific issues: Applying genetics knowledge to genetic engineering issues. *Science Education*, 89(1), 71-93. doi: 10.1002/sce.20023
- Sadler, T. D. (2004). Informal reasoning regarding socio-scientific issues: A critical review of research. *Journal of Research in Science Teaching*, 41, 513- 536.
- Sadler, T. D., & Donnelly, L. A. (2006). Socio-scientific argumentation: The effects of content knowledge and morality. *International Journal of Science Education*, 28(12), 1463 - 1488.
- Saito, S. (2010). *An analysis of argumentative essay of Thai third-year English majors instructed by the integrated process-genre approach*. Unpublished MA Dissertation. University of Srinakharinwirot, Thailand.
- Sasaki, M. (2000). Toward an empirical model of EFL writing processes: An exploratory study. *Journal of Second Language Writing* 9(3), 259-291. Retrieved from <http://sla.sjtu.edu.cn/thesis/Toward%20an%20Empirical%20Model%20of%20EFL%20Writing%20Processes--An%20Exploratory%20Study.pdf>

- Sasaki, M. (2004). A multiple-data analysis of the 3.5-year development of EFL student writers. *Language Learning*, 54(3), 525-582. Retrieved from [http://dx.doi.org/10.1016/S1060-3743\(00\)00028-X](http://dx.doi.org/10.1016/S1060-3743(00)00028-X)
- Sasaki, M., & Hirose, K. (1996). Explanatory variables for EFL students' expository writing. *Language Learning*, 46, 137-174. Retrieved from <http://dx.doi.org/10.1111/j.1467-1770.1996.tb00643>.
- Schwandt, T. (1998). Constructivist, interpretivist approaches to human inquiry. In N.K. Denzin and Y.S. Lincoln. (Eds.), *The landscape of qualitative research: Theories and issues*, (pp. 189-214). Thousand Oaks, CA: Sage Publications.
- Schwarz, B.B., & Glassner, A. (2003). The blind and the paralytic: Supporting argumentation in everyday and scientific issues. In J. Andriessen, M. Baker, & D. Suthers (Eds.), *Arguing to learn: Confronting cognitions in computer-supported collaborative learning environments* (pp. 227-260). Utrecht: Kluwer Academic Publishers.
- Second National Seminar on Strategies and Curriculum Reform of the New Education System (2004). Coalition Provisional Authority. Retrieved from http://www.iraqcoalition.org/pressreleases/20040330_ed_symposium.html
- Shayer, M., 2002. Not just Piaget, not just Vygotsky, and certainly not Vygotsky as an alternative to Piaget. In M. Shayer (Ed.), *Learning intelligence, cognitive acceleration across the curriculum from 5 to 15 years* (pp.179-195). UK: Open University Press.
- Shih, M. (1986). Content-based approaches to teaching academic writing. *TESOL Quarterly*, 20, 617-648. Retrieved from http://tesol.aua.am/tqd_2000/tqd_2000/Tq_d2000/Vol_20_4.pdf#page=10
- Silva, T. (1992). L1 vs. L2 writing: ESL graduate students' perceptions. *TESL Canada Journal*, 10 (1), 27-48. Retrieved from <http://files.eric.ed.gov/fulltext/EJ457628.pdf>
- Silva, T. (1990). Second language composition instruction: developments, issues, and directions in ESL. In B. Kroll (Ed.), *Second language writing research: Insights for the classroom* (pp. 11-17). New York: Cambridge University Press.
- Silva, T. (1993). Toward an understanding of the distinct nature of L2 writing: The ESL research and its implications. *TESOL Quarterly*, 27(4): 657-677. Retrieved from http://www.jstor.org/stable/3587400?origin=crossref&seq=1#page_scan_tab_contents
- Silva, T., & Matsuda, P. (2001). *On second language writing*. Mahwah, NJ: Lawrence Erlbaum.

- Silva, T., & Matsuda, P. (2002). Writing. In N. Schmitt (Ed.), *An introduction to applied linguistics* (pp. 250- 266). London: Oxford University Press.
- Smagorinsky, P. (1995). The social construction of data: Methodological problems of investigating learning in the zone of proximal?? development. *Review of Educational Research*, 65, 191-212. Retrieved from http://www.academia.edu/9156791/Smagorinsky_P._1995_.The_social_construction_of_data_Methodological_problems_of_investigating_learning_in_the_zone_of_proximal_development._Review_of_Educational_Research_65_191-212
- Snow, M. A. (2001). "Content-Based and Immersion Models for Second and Foreign Language Teaching." In M. Celce-Murcia (Eds.), *Teaching English as a second or foreign language* (pp.303-318). Boston: Heinle & Heinle
- Spandel, V. A. (2006). In defence of rubrics. *English Journal*, 96(1) 19-22.
- Stellmack, Mark A.; Konheim-Kalkstein, Yasmine L.; Manor, Julia E.; Massey, Abigail R.; Schmitz, Julie Ann P. (2010). An Assessment of Reliability and Validity of a Rubric for Grading APA-Style Introductions. *Teaching of Psychology*, 36 (2), 102-107 Retrieved from: <http://www.units.miamioh.edu/celt/events/docs/CFLING/assessment%20of%20reliability%20and%20validity%20of%20a%20rubric.pdf>
- Storch, N. (2002). Patterns of interaction in ESL pair work. *Language Learning*, 52(1), 119-158.
- Storch, N., Tapper, J. (2009). The impact of an EAP course on postgraduate writing. *Journal of English for Academic Purposes*, (8), 207-223.
- Strauss, A., & Corbin, J. (1990). Basics of qualitative research: Grounded theory procedures and techniques. Newbury Park, CA: Sage.
- Stevens, P. (1988). ESP after twenty years: A re-appraisal. In M. Tickoo (Ed.), *ESP: State of the Art* (pp. 1-13). Singapore: SEAMEO Regional Centre.
- Suthers, D. D. (2006). Technology affordances for intersubjective meaning making: A research agenda for CSCL. *International Journal of Computer-Supported Collaborative Learning*, 1(3), 315-337.
- Swales, J. (1981). *Aspects of article introductions*. Aston Research Report, No. 1, Birmingham: Language Studies Unit, University of Aston.
- Swales, J. and Lindemann, S. (2002). Teaching the literature review to international graduate students. In A. M. Johns (Ed.), *Genre in the classroom. Multiple perspectives* (pp 105-119). Mahwah, NJ: Lawrence: Erlbaum
- Swales, J. M., & Feak, C. B. (2000). *English in today's research world: A writing guide*. Ann Arbor: University of Michigan Press.

- Swales, J. M., & Feak, C. B. (2004). *Academic writing for graduate students. Essential tasks and skills* (2nd ed.). Ann Arbor: University of Michigan Press.
- Swales, J.M. (1990). *Genre analysis: English in academic and research settings*. Cambridge: Cambridge University Press.
- Swales, J.M., (1998). *Other floors, other voices: A textography of small university building*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Swanson, R. A., & Holton, E. F. (2005). *Research in organizations: Foundations and methods of inquiry*. San Francisco: Berrett-Koehler Publishers, Inc.
- Tardy, C.M. (2006). Researching first and second genre learning: A comparative review and a look ahead. *Journal of Second Language Writing*, 15, 79-101. Retrieved from http://ac.els-cdn.com/S1060374306000245/1-s2.0-S1060374306000245-main.pdf?_tid=89e3a5d0-1a20-11e5-a189-00000aacb35d&acdnat=1435116456_c685fdadfcc05896bce2faea8653f9a6
- Tharp, R., & Gallimore, G. (1998). A theory of teaching as assisted performance. In Faulkner, D, Littleton, K & Woodhead, M. (Eds.), *Learning relationships in the classroom* (pp. 93–110). London & New York: Routledge.
- Thompson, G. (2004). *Introducing Functional Grammar*. 2nd edition, London: Edward Arnold.
- Tribble, C. 1996. *Writing*. Oxford: Oxford University Press.
- Turuk, M. (2008). The relevance and implications of Vygotsky's sociocultural theory in the second language classroom. *ARECLS*, 5, 244-262.
- United Nations Educational, Scientific and Cultural Organisation (2010). *World Data on Education*. International Bureau of Education.
- Uzawa, K. (1996). Second language learners' process of L1 writing, L2 writing, and translation from L1 into L2. *Journal of Second Language Writing*, 5(3), 271-294.
- Uzawa, K., & Cumming, A. (1989). Writing strategies in Japanese as a foreign language: Lowering or keeping up the standards. *The Canadian Modern Language Review*, 46, 178–194.
- Van der Veer, R. (2007). Vygotsky in context: 1900-1935. In H. Daniels, M. Cole, & J. V. Wertsch (Eds.), *The Cambridge Companion to Vygotsky* (pp.21-49). New York: Cambridge University Press.
- Van Lier, L. (1996). *Interaction in the curriculum: Awareness, autonomy & authenticity*. London: Longman.
- Van Lier, L. (2000). From input to affordance: Social interactive learning from an ecological perspective. In J. P. Lantolf (Ed.), *Sociocultural*

- theory and second language learning* (pp. 245-259). New York: Oxford University Press.
- Verity, D. (2005). Vygotskian concepts for teacher education. *Pan-SIG Conference "Lifelong learning" proceedings*. Retrieved from <http://jalt.org/pansig/2005/HTML/Verity.htm>
- Victori, M. (1999). An analysis of writing knowledge in EFL composing: A case study of two effective and two less effective writers. *System*, 27, 537–555.
- Voon Foo, T, C. (2007). *The effect of the process genre approach to writing instruction on the expository essay of ESL students in a Malaysian secondary school*. Unpublished thesis: Malaysia.
- Vygotsky, L.S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Vygotsky, L. S. (1986). *Thought and language*. Cambridge: Massachusetts Institute of Technology.
- Vygotsky, L. S. (1998). The problem of age. In R. W. Rieber (Ed.), *The collected works of L. S. Vygotsky: Vol. 5. Child psychology* (pp. 187–206). New York: Plenum.
- Vygotsky, L. S. (1981). The genesis of higher mental functions. In J. V. Wertsch (Ed.), *The concept of activity in Soviet psychology* (pp. 144–188). Armonk, New York: Sharpe.
- Walton, D. (1992). 1992. *Slippery Slope Arguments*. Oxford: Oxford University Press.
- Wang, W., & Wen, Q. (2002). L1 use in the L2 composing process: An exploratory study of 16 Chinese EFL writers. *Journal of Second Language Writing*, 11(3), 225–246.
- Weigle, S.C. (2002). *Assessing writing*. Cambridge, UK: Cambridge University Press.
- Weir, C. J. (2005). *Language testing and validation: An evidence-based approach*. Oxford: Palgrave.
- Wellington, J. (2000). *Educational Research. Contemporary Issues and Practical Approaches*. London: Continuum.
- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. New York, NY: Cambridge University Press.
- Wertsch, J. V. (1985). The semiotic mediation of mental life: L. S. Vygotsky and M. M. Bakhtin. In E. Mertz & R. J. Parmentier (Eds.), *Semiotic mediation: Sociocultural and psychological perspectives* (pp. 49-72). Orlando: Academic Press.

- Whitaker, A. (2009). *Academic Writing Guide 2010: A Step-by-Step Guide to Writing Academic Papers*. City University of Seattle, Bratislava, Slovakia. Retrieved from:
http://www.academia.edu/5610366/Academic_Writing
- White, E. M. (1994). Portfolios as an assessment concept. In L. Black, D. A. Daiker, J. Sommers, & G. Stygall (Eds.), *New directions in portfolio assessment* (pp. 93-102). Portsmouth, NH: Boynton/Cook.
- White, R., & Arndt, V. (1991). *Process Writing*. Harlow: Longman.
- Wiley, J. (2003). Development of argumentation skill in early elementary grades. *Paper presented at the annual Winter Conference on Text, Discourse and Cognition*, Jackson Hole, WY.
- Williams, M., & Burden, R. (1997). *Psychology for language teachers, a social constructivist approach*. UK: Cambridge University Press
- Woltersberger, M. (2003). L1 to L2 writing process and strategy transfer: A look at lower proficiency writers. *TESL-EJ*, 7(2), 1-12.
- Wood, D., Bruner, J. C., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child Psychology and Psychiatry*, 17, 89-100.
- Woodward-Kron, R. (2002). Critical analysis versus description? Examining the relationship in successful student writing. *Journal of English for Academic Purposes*, 1(2), 121-144. Retrieved from
<http://www.sciencedirect.com/science/article/pii/S1475158502000139#>
- Woodward-Kron, R. (2004). Discourse communities' and 'writing apprenticeship: An investigation of these concepts in undergraduate education students' writing. *Journal of English for Academic Purposes*, 3(2), 139-161. Retrieved from
<http://www.sciencedirect.com/science/article/pii/S1475158503000699>
- Xinghua, L. (2010). An investigation of Chinese university EFL learners' knowledge about writing. *University of Reading Language Studies Working Papers*, 2, 51-63. Retrieved from
http://www.reading.ac.uk/AcaDepts/ll/app_ling/internal/Liu_vol_2.pdf
- Xiu, X. D., & Xiao, D. F. (2004). A protocol-based analysis of the relationship between writing processes and TEM-8 Scores. *Foreign Language Teaching and Research*, 36(6), 462-466.
- Yan, G. (2005). A Process Genre Model for Teaching Writing. *English Teaching Forum*, 43 (3), 18-26.
- Yang, S. X. (2002). The difference between successful writers and unsuccessful writers in strategy use. *Foreign Language World*, 89 (3), 57-64.
- You, X. (2004). New directions in EFL writing: A report from China. *Journal of Second Language Writing*, 13, 253-256.

- Yun, Y. (2005). *Factors explaining EFL learners' performance in a timed essay writing test: A structural equation modelling approach*. Unpublished Doctoral dissertation, University of Illinois at Urbana-Champaign, Urbana, Illinois.
- Zamel, V. (1976). Teaching composition in the ESL classroom: What we can learn from research in the teaching of English. *TESOL Quarterly*, 10, 67-76. Retrieved from <http://www.jstor.org/stable/pdf/3585940.pdf>.
- Zamel, V. (1982). Writing: The process of discovering meaning. *TESOL Quarterly*, 16(2), 195-209. Retrieved from <http://www.jstor.org/stable/pdf/3586792.pdf?acceptTC=true>
- Zamel, V. (1983). The composing process of advanced ESL students: six case studies. *TESOL Quarterly* 17(2), 165-187. Retrieved from <http://www.jstor.org/stable/pdf/3586647.pdf>
- Zamel, V. (1985) Responding to student writing *TESOL Quarterly* 19(1), 79-101
- Zamel, V. (1987) Recent research on writing pedagogy. *TESOL Quarterly* 21(40), 407-715.
- Zamel, V. (1997). Toward a model of transculturation. *TESOL Quarterly*, 31, 341-352. Retrieved from <http://onlinelibrary.wiley.com/doi/10.2307/3588050/epdf>
- Zare-ee, A., & Farvardin, M. (2009). Comparison of university level EFL learners' linguistic and rhetorical patterns as reflected in their L1 and L2 writing. *Novitas-ROYAL*, 3(2), 143-155. Retrieved from http://www.novitasroyal.org/Vol_3_2/zare-ee_farvardin.pdf
- Zeidler, D. L., & Nicholos, B.H. (2009). Socio-scientific Issues: Theory and practice. *Journal of Elementary Science Education*, 21(2), 49-58.
- Zeidler, D. L., & Keefer, M. (2003). The role of moral reasoning and the status of socioscientific issues in science education. In D. L. Zeidler (Ed.), *The role of moral reasoning on socioscientific issues and discourse in science education* (pp. 7-38). The Netherlands: Kluwer Academic Press.
- Zeidler, D.L., Sadler, T.D., Simmons, M.L., & Howes, E.V. (2005). Beyond STS: A research-based framework for socio-scientific issues education. *Science Education*, 89, 357- 377.
- Zhang, M. (2010). The Application of Process Genre Pedagogy in EFL Writing Class. *The Front*, 12, 185-187.
- Zimmerman, R. (2000). L2 writing: Sub-processes, a model of formulating and empirical findings. *Learning and Instruction*, 10 (1), 73-99.
- Zizi, K. (1978). *Contrastive Discourse Analysis of Argumentative and Informative Newspaper Prose in Arabic, French and English: Suggestions for Teaching/ Learning English as a Foreign Language for Journalistic Purposes in Morocco*. Unpublished Doctoral Thesis, University of Illinois at Urbana-Champaign.

- Zo`bi1, A.S. (2014). The Effect of Using Socio-Scientific Issues Approach in Teaching Environmental Issues on Improving the Students' Ability of Making Appropriate Decisions Towards These Issues. *International Education Studies*, 7(8), 113-123. Retrieved from <http://dx.doi.org/10.5539/ies.v7n8p113>
- Zohar, A., & Nemet, F. (2002). Fostering students' knowledge and argumentation skills through dilemmas in human genetics. *Journal of Research in Science Teaching*, 39 (1), 35-62.

LIST OF APPENDICES

Appendix 1: Representative Educated Reader's information sheet

Information Sheet

Title of the project: Teaching Academic Writing to Iraqi Undergraduate Students: An Investigation into the Effectiveness of a Genre-Process Approach

Dear Participant

The aim of the project is to investigate the extent to which the implementation of a particular writing methodology assists EFL students in developing their academic writing and critical thinking skills,

You will have a two 50-minute class periods per week. The implementation of this writing methodology will extend over the second full twelve-week term of the academic year 2012-2013.

You will be individually asked to write two timed argumentative assignments. Your assignments will be evaluated and analysed to help achieve the aims of the project.

Access to the research data will be restricted, with only the researcher, the evaluators and my supervisors having access to the data.

Your identities will be concealed. Pseudonyms will be used to ensure your anonymity.

The data will be kept confidential at the School of Education at Curtin University/Australia for a minimum of 5 years.

Your participation is completely voluntary; you are at liberty to withdraw at any time without giving reasons and without prejudice.

■ Should you require further information, here are the contact details of the researcher:

Name: Sami Abbas Al-Asadi

Mobile:

E-mail: san_san53@yahoo.com

Appendix 2: Representative Educated Reader's consent form
Consent Form

Title of the project:

Teaching Academic Writing to Iraqi Undergraduate Students:

An Investigation into the Effectiveness of a Genre-Process Approach

I have read the information sheet about this study and understood its purpose. I have been given an adequate opportunity to ask questions about the study and all my questions have been answered to my satisfaction by the researcher. I understand that any data which might potentially identify me will not be used in published material. I have agreed to take part in the study. I understand that I may withdraw at any time without giving reasons.

Name of participant :

Signature :

Date :

This study has been approved by Curtin University Human Research Ethics Committee, No: EDU 95 12. If needed, verification of approval can be obtained either by writing to the Curtin University Human Research Ethics Committee / Office of Research and Development, Curtin University of Technology, GPO Box UI 198, Perth, 6845 or by telephoning +61892662784

Appendix 3: Student information sheet

Information Sheet

Title of the project:

Teaching Academic Writing to Iraqi Undergraduate Students: An Investigation into the Effectiveness of a Genre-Process Approach

Dear Participant

The aims of the project are to investigate the extent to which a particular writing teaching methodology is effective in assisting students majoring in EFL at the College of Education at Al-Qadisiyah University / Iraq to develop their academic writing and competence and critical thinking skills.

You will be invited to participate in the present study to assess a sample of eight mixed socio-scientific texts and rank them.

- Please think-aloud as you assess and rank the texts.
- Please verbalise your thinking processes as you rationalise your judgements why a text is most effective or least effective in comparison to one another.
- Please feel free to comment on *any aspect of the text* which informs your judgement.

The study is in two parts. In the first part, the researcher will transcribe the verbal data and analyse them to set up an inclusive and manageable set of evaluative criteria against which against which EFL students' writing assignments will be assessed in the second part.

Your participation is completely voluntary; you are at liberty to withdraw at any time without giving reasons for withdrawal.

■ Should you require further information, here are the contact details of the principal supervisor and those of the researcher:

Supervisor

Researcher

Name: Professor Jennifer Nicol

Name: Sami Abbas Al-Asadi

Phone:

Mobile: +610411205469

email: darrjenn@iinet.net.au

email : san-san53@yahoo.com

■ Should you make any complaint on ethical ground, here are the contact details of the Human Research Ethics Committee (Secretary): Office of Research and Development, Ph.: +61 8 9266 9223. E-mail: hrec@curtin.edu.au

Appendix 4: Student's Consent Form

Consent Form

Title of the project:

Teaching Academic Writing to Iraqi Undergraduate Students: An Investigation into the Effectiveness of a Genre-Process Approach

I have read the information sheet about this study and understand its purpose. I have been given an adequate opportunity to discuss the study with the researcher and all my questions have been answered to my satisfaction. I understand that any information which might potentially identify me will not be used in published materials. I understand that I may withdraw at any time without or negative consequences. I have agreed to take part in the study as outlined to me.

Name of participant: _____

Signature: _____

Date: _____

Appendix 5: Model Text 1

Why Women Should Not Have An Abortion

(Source: <http://www.solidessay.com/howto/sample-1-Persuasive-Essay.html>)

Introduction

Many women in the entire world have abortions. Women believe there are many reasons to abort such as fear of having or raising a child, rape, or not having enough money. But whatever the situation, there is never an acceptable reason to get an abortion. Some important reasons why women should not abort have to do with human values, religious values, and values of conscience.

Body paragraphs

Paragraph 1

The first reason why women should not have an abortion is related to basic human values (1). Women need to think about their unborn babies who are not responsible for this situation. These unborn babies should have the privilege to live and grow into a normal person. Women need to be more humanitarian and less egoistic with these babies (2). On the other hand, the baby doesn't know how or why he is here (3). It is not necessary to kill a life; there are many other solutions to resolve this problem of abortion (4).

Paragraph 2

The second reason why women should not abort has to do with religious values (1). In almost all religions, a woman is not permitted to have an abortion. If they do, their religions will punish them (2). In some religions, for example, a woman cannot take communion after having an abortion, and before taking communion again, she must do many things as a form of penitence (3). In whatever religion, abortion is punished and for this reason, women should not abort (4).

Paragraph 3

The third and most important reason why women should not abort is the related to her conscience (1). When a woman has an abortion, she will always think about the baby she might have had (2). She will always think about the future that could have happened with her baby which will always remind her that she killed it (3).

Conclusion

Because she has had an abortion, she will never have a good life, and her conscience will remind her of what she had done. Because a woman who has an abortion can't forget about what she has done, these thoughts will always be with her, and the results can be calamitous. There are many reasons why women should not have an abortion. The truth is that women need to think about the consequences that can occur before having sexual relations. I think that the effects of an abortion can be very sad for everyone involved, both for the woman who has the abortion and for the family who lives with her.

Appendix 6: Model Text 2

Genetically Modified Food: Helpful or harmful?

(Source: http://hotessays.blogspot.com.au/2011_07_01_archive.html#uds-search-results)

Introduction

The use of genetically modified food by man has in the recent past been embraced on large scale in different parts of the world. In the world today, many genetically modified products can be found on the markets and groceries.

Most consumers are ignorant of the impact these products may have on them. Despite this overwhelming ignorance, many people are waking up and are becoming aware of the effects of consuming GM food. In 2007 for example, 91% of soya bean and about 81% of canola sold in the United States were genetically modified. In addition, many researchers have come up with findings that suggest that about 60% of all processed food is genetically modified.

The debate on whether or not there is a net benefit in the consumption of genetically modified food by man has never ended. Even though the use of genetically modified food is believed to have advantageous impacts on humanity such as increased food production, it has some serious disadvantages that necessitate its control. This paper presents a view to oppose the notion that the use GM food has many advantages (Blake, 1990).

Body paragraphs

Paragraph 1

Those who support the use of GM food talk of reducing environmental pollution (1). This, they say, results from reduced use of pesticides after the modification of crops to make them naturally resistant to pests (2). It is however important to note here that there is no real evidence to show that pollution reduces (3).

In fact, these are believed to have a counter-effect that would result in serious pollution (4). For example, introducing herbicide resistant crops may result in farmers taking advantage of the fact that the crops are resistant and thus spraying large quantities of herbicides to kill weeds (5). This would in turn result in an increase in environmental pollution hence a big disadvantage (6).

Paragraph 2

Advocates argue that genetic modification can enable crops to carry certain specific vitamins and nutrients that are crucial for human health (1). This, they say, could easily help in solving the problem of nutrient deficiency in poor countries. The best example quoted is Golden Rice which has vitamin A (2). However, studies show that in order to get vitamin A one would have to consume at least twice the normal consumption quantities (3). This is very ironic because poor people for which the rice is modified would not have the capability to acquire large volumes of rice thus GM food does not enhance nutrient sufficiency (4).

Paragraph 3

Researchers that support the use of genetically modified food argue that it could solve the problem of food shortage in developing countries (1). They further argue that this would cater for the continuous increase in human population (2). It is important to state here that indeed genetic engineering may reduce the costs of

production (3). However, it should be noted that the scale of production for the crops does not have a significant increase (4). This can therefore result in reduced yield (5). It has been proven that the genetically modified soy bean has about 10% reduced yield as compared to the wild species (Meziani & Warwick, 2002) (6). The real cause of hunger in the world is not lack of food supply but the political and diplomatic policies that result in poverty in third world countries (7). Poverty is what in turn results in hunger (8). It is therefore important to note here that even though GM food reduces poverty, most companies that own the biotechnology would restrict the distribution of the technology to the poor countries (Tam, 2000) (9).

Conclusion

Embracing technology is not a bad thing. It is however important for mankind to assess extensively the consequences of their actions over a long period of time. GM foods have not been in existence for a very long time thus it would not be safe for researchers to celebrate that the food is advantageous to mankind, because as it stands now there are many disadvantages.

Appendix 7: Writing assessment matrix

1. Organisation				
	Proficient	Acceptable	Inadequate	No evidence
A. Intro. paragraph	<p>The text exhibits:</p> <ul style="list-style-type: none"> Detailed relevant background information about the topic. An engaging and effective attention-getting opening that draws in the audience. 	<p>The text exhibits:</p> <ul style="list-style-type: none"> Sufficient background information about the topic. Relevant attention-getting opening that draws in the audience. 	<p>The text exhibits:</p> <ul style="list-style-type: none"> Partially developed background information about the topic. A trite 'attention grabber' opening. 	<p>The text exhibits:</p> <ul style="list-style-type: none"> No background information about the topic. No 'attention grabber' opening
B. Thesis development	<p>The text exhibits:</p> <ul style="list-style-type: none"> A compelling and succinct thesis statement. An arguable thesis statement. 	<p>The text exhibit:</p> <ul style="list-style-type: none"> Clearly stated thesis statement that can be supported by reasons and evidence. 	<p>The text exhibits :</p> <ul style="list-style-type: none"> An unarguable, somewhat vague and narrative thesis statement. 	<p>The text exhibits :</p> <ul style="list-style-type: none"> Unidentifiable or unarguable narrative thesis statement.
C. Body paragraph	<p>The text exhibits:</p> <ul style="list-style-type: none"> Paragraphing. <ul style="list-style-type: none"> Well-stated topic sentences Paragraphs thoroughly support the thesis statement. Logical progression. Ideas are thoroughly developed. Ideas are well-connected through the strategic use of logical and linguistic transitional 	<p>The text exhibits:</p> <ul style="list-style-type: none"> Paragraphing. Clearly stated topic sentences. Adequately developed paragraphs to develop the thesis statement. Adequate argumentation logical progression. Adequate use of logical and linguistic transitional signals between sentences and across paragraphs. 	<p>The text exhibits:</p> <ul style="list-style-type: none"> Vaguely stated or no topic sentences. Poorly developed paragraphs to support the thesis statement. Inconsistencies in the logical progression of argumentation. A limited range of linguistic transitional signals between sentences and across paragraphs 	<p>The text exhibits:</p> <ul style="list-style-type: none"> No paragraphing. No topic sentences. Major inconsistencies in the logical progression of argumentation. Little or no use of transitional signals between sentences and across paragraphs.

	signals within and across paragraphs. <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
D. Concluding paragraph	<p>The text exhibits a concluding paragraph that:</p> <ul style="list-style-type: none"> Reinforces the reason for accepting the original thesis or explains its significance. Has a strong sense of completeness. Reminds the audience of the main points. <input type="text"/>	<p>The text exhibits a concluding paragraph that:</p> <ul style="list-style-type: none"> Adequately follows from the original thesis and supports it. Has a satisfactory sense of completeness. <input type="text"/>	<p>The text exhibits a concluding paragraph that:</p> <ul style="list-style-type: none"> Restates the main points. Introduces new ideas. Shows no firm conclusion. <input type="text"/>	<p>The text exhibits a concluding paragraph that</p> <ul style="list-style-type: none"> is totally inadequate or is missing and/or does not follow from the original thesis. <input type="text"/>
2.Content	<ul style="list-style-type: none"> The essay is free of fallacious statements\ reasoning. Well-developed evidence thoroughly substantiated by concrete and sufficient supportive examples, elaborations, and facts smoothly integrated from topic content knowledge through the use of informal reasoning strategies. The concerns and questions of a counter-argument are persuasively addressed and discredited. <input type="text"/>	<ul style="list-style-type: none"> The essay may contain fallacious statements and reasoning. Adequately developed evidence substantiated by relevant topic content-based supportive examples and elaborations through the use of informal reasoning strategies. The concerns and questions of a counter-argument are adequately addressed and discredited. <input type="text"/>	<ul style="list-style-type: none"> The essay contains many fallacious statements and reasoning. The essay exhibits inadequately developed evidence occasionally supported by listed topic –related overgeneralisations calling upon the writer's personal experience through the use of informal reasoning strategies. Opposing argument is not fairly addressed and discredited. <input type="text"/>	<ul style="list-style-type: none"> Ideas do not follow logically and often do not make sense. Evidence based on disjointed off-topic-content or superficial overgeneralised statements. No counter-argument is addressed. <input type="text"/>

3.Vocabulary	<ul style="list-style-type: none"> • Essay maintains a formal style and authoritative voice appropriate to the academic audience. • Writing consistently flows well. • Writing is crisp, clear and succinct. • Domain specific lexical choices are appropriate and effective. 	<ul style="list-style-type: none"> • Attempts to write in a scholarly style, are apparent. • Writing is generally clear and flows well. • The writer incorporates the active voice when appropriate. • Domain specific lexical choices are appropriate. 	<ul style="list-style-type: none"> • Scholarly writing style is generally not employed. • Writing is generally weak with some awkward phrases. • The writer over-uses the active voice. • Sentence structure is varied. • Domain-specific lexical choices are lacking. 	<ul style="list-style-type: none"> • Scholarly writing is not employed. • Vocabulary is inconsistent, simplistic and inappropriate for the audience. • Writing is convoluted.
4.Language use and Mechanics	<p>The text exhibits:</p> <ul style="list-style-type: none"> • Sentence structure is sophisticated and varied. • No use of content – oriented hedges including modal auxiliary verbs and epistemic modality lexical verb. • No use of reader- oriented hedges including first person singular. • Effective use of capitalisation, spelling and punctuation. • The essay is free of grammatical capitalisation, spelling and punctuation errors. 	<p>The text exhibits:</p> <ul style="list-style-type: none"> • Appropriately varied sentence structures. ▪ Little use of content – oriented hedges including modal auxiliary verbs and epistemic modality lexical verb. ▪ Little use of reader-oriented hedges including first person singular. ▪ Minor errors in grammar, capitalisation, spelling and punctuation. 	<p>The text exhibits:</p> <ul style="list-style-type: none"> • Choppy sentences. • Few errors in grammar, capitalisation, spelling and punctuation. • Minimally varied sentence structures. • Frequent use of content – oriented hedges including modal auxiliary verbs and epistemic modality lexical verb. • Frequent use of reader-oriented hedges including first person singular. 	<ul style="list-style-type: none"> • Errors in grammar, capitalisation, spelling and punctuation are numerous throughout the essay. • Many sentences and paragraphs do not relate to each other and meaning is obscured in many parts of the text due to absence of the use of linguistic transitional signals within and across sentences and paragraphs.

Appendix 8: Context exploration and text modelling activities

Activity 1.1 (Time-line: 25 minutes)

Lesson Plan
Session 1: Context exploration (Week 1)
Focus of instruction: Context exploration
Target group: Intervention

The objective of this activity was to familiarise the students with the contextual features surrounding the production of a simplified (one-sided) argumentative text (Appendix 5). To help them to achieve the task, the students were instructed to respond to the following questions:

(i) Who is the audience likely to be?

Families, women and the general public are the likely audience.

(ii) What are the intended audience's main concerns?

The main concerns are the potential psychological and social consequences of abortion.

(iii) What are the intended audience's main interests?

The main interest is the reasons why women should not have abortion.

(iv) What purpose(s) could the text serve?

The rhetorical purpose of the writer is to convince the audience to accept the claims that having abortion is against the human, social and religious values our community observes and respects, resulting in women experiencing spiritual and psychological stress.

Activity 1.2 (Time-line: 75 minutes)

Lesson Plan
Session 1: Text Modelling (Week 1)
Focus of instruction: Stages and moves analysis
Target group: Intervention

The teacher explained the rhetorical stages and moves of the model text 1 and the contribution of each of them. The objective of this activity was to help the participants develop their academic argumentative genre awareness. In order to achieve this objective, the teacher provided them with a graphic organiser in order to make the rhetorical features visible and concrete.

Introductory paragraph: introduces the proposition to be argued for.

Sentence 1 sets the context by offering background information to draw the audience's interest and keep their attention.

Many women have abortions. Women believe there are many reasons to abort: childbirth, fear of raising a child, victim of rape, not having enough money.

Sentence 2 carries the thesis statement to be argued for throughout the text.

Whatever the situation, there is never an acceptable reason to have an abortion. Some important reasons: contrary to religious and moral values.

2. Body paragraphs:

Paragraph 1:

Sentence 1 is a topic sentence that announces the writer's controlling idea to be developed and substantiated in the remainder of the paragraph.

The first reason why women should not have an abortion is related to basic human values.

Sentences 2 and 3 provide supportive grounds in defence of the position taken by the writer:

Sentence 2

Women need to think about their unborn babies who are not responsible for this situation. These unborn babies should have the privilege to live and grow into a normal person. Women need to be more humanitarian and less egoistic with these babies.

Sentence 3

On the other hand, the baby doesn't know how or why he is here.

Paragraph 2:

Sentence 1 is a topic sentence that announces the writer's second controlling idea to be developed and substantiated in the remainder of the paragraph.

The second reason why women should not abort has to do with religious values.

Sentences 2, 3 and 4 provide evidence in support of the writer's controlling idea.

Sentence 2

In almost all religions, abortion is prohibited.

Sentence 3

In some religions, a woman cannot take communion after having an abortion, and she must do many things as a form of penance.

Sentence 4

In all religions, abortion is punished in some way and for this reason, women should not abort their pregnancy.

Paragraph 3:

Sentence 1 is a topic sentence that announces the writer's controlling idea to be developed and substantiated in the remainder of the paragraph.

The third and most important reason why women should not abort is the related to personal conscience.

Sentences 2, 3, and 4 provide evidence in support of the writer's controlling theme.

Sentence 2

When a woman has an abortion, she may always think about the baby she might have had. Thinking about its future is a reminder that she terminated the child's life.

Sentence 3

It is likely that her conscience will remind her of what she has done.

Sentence 4

These thoughts may always be with her, and the results can be personally damaging.

3. Concluding paragraph: It rounds off the text.

Sentence 1 carries a link back to the writer's main thesis articulated in the introductory paragraph.

There are many reasons why women should not have an abortion.

Sentence 2 urges the audience to take precautions to avoid the negative effects of abortion.

Women need to think about the consequences of unprotected sex.

Sentence 3 suggests the negative implications of having had an abortion for both the parent and for family relations.

The effects of an abortion, both for the woman who has the abortion and for her family, can be devastating.

Activity 2.1 (Time-line: 50 minutes)

Lesson Plan
Session 3: Text modelling (Week 2)
Focus of instruction: Informal reasoning patterns
Target group: Intervention

This activity involved identifying and explaining the kinds of informal reasoning used by the writer of the model text to convince the potential audience to accept his/her claims. The objective of this activity was to develop participants' awareness to learn how to use them to resolve the issue at hand.

1. Body paragraphs:

Paragraph 1:

Sentence 2

The writer makes use of a pro-life moral obligation- the undisputed right of human life protection, regardless of intent, health conditions and financial hardships concerns- that the audience are expected to recognise and value. This could be evidenced in "These unborn babies should have the privilege of life and the opportunity to grow to adulthood". The writer utilises them to develop informal emotive reasoning to serve as evidence to support his/her stand and to persuade the audience of its validity. This could be evidenced in

Women need to think about their unborn babies who are not responsible for this situation. These unborn babies should have the privilege of life and the opportunity to grow to adulthood. Women need to be less self-concerned and more aware of the child's rights.

Paragraph 2

The writer appeals to the potential audience's moral concerns related to this issue including religious traditions and imperatives they are expected to highly retain and respect. This could be demonstrated in the phrase: "In almost all religions, abortion is condemned. If a woman does have an abortion, their religions will punish them in some way".

He / She utilises these religious imperative to generate another informal emotive reasoning in support of his stance against abortion. In sentences 3 and 4, the writer backs his/ her evidence with exemplification and extended information in sentence 4.

Sentence 3

In some religions, for example, a woman cannot take communion after having an abortion, and before taking communion again, she must do many things as a form of penance.

Sentence 4

In most religions, abortion is punished and for this reason, one sound women should resist abortion

Paragraph 3

The writer makes use of topic-related knowledge when referring to social norms - a code of conduct the audience highly retain and respect: self-conscience. The writer acts on acts on them and develop an informal emotive reasoning that serves as evidentiary grounds to support his/ her position. This could be evidenced in sentence 2 “When a woman has an abortion, she will always think about the baby she might have had.” This evidence is further extended and backed up with extended details in sentence 3 to persuade the audience to accept the claims as true.

Sentence 3

She will always think about the future that could have been.

Activity 2.2 (Time-line: 50 minutes)

Lesson Plan
Session 4: Text modelling (Week 2)
Focus of instruction: Language resources
Target group: Intervention

This session involved exploring the language resources that the expert writer uses to realise the ultimate communicative goal of the model text 1. The objective of this activity was to help the participants develop their awareness of the typical language features employed.

A. Transitional signals:

- The writer uses the following transitional phrases **“The first”, “The second” and “Finally, the third”**. They initiate the three body paragraphs 1, 2 and 3 respectively.

Their rhetorical function is to make it easy for the reader to keep track of the three reasons introduced by the writer to substantiate his/her argument.

B. Complex grammatical constructions:

1. Contrastive reasoning is used initiated by the adversative conjunction **“But”**

- **But** whatever the situation, there is never an acceptable reason to get an abortion.

Its rhetorical function is to emphasise the alignment of the writer’s thesis statement with the advocates of pro-life. The writer brings a pregnant women’s reasons into direct conflict with social and religious values that the audience shares.

2. A conditional reasoning pattern initiated by **“If” ...’then’**:

- **If** they [women] do, **then** their religion will punish them.

Its rhetorical significance is to strengthen the writer’s argument. The writer attempts to lead the targeted audience to logically infer that the condition-related claim is customised to their interests. He/she tries to convince the audience that complying with religious traditions would be the only condition required for the mother to avoid the painful emotional suffering of an abortion.

3. Cause-effect reasoning patterns initiated by **“Because”**:

- **Because** she has had an abortion, she will never have a good life, and her conscience will remind her of what she had done.

- **Because** a woman who has an abortion can't forget about what she has done, these thoughts will always be with her, and the results can be calamitous.

The rhetorical function of the complex grammatical construction is to maximise the strength of the writer's argument. The writer tries to guide the targeted audience, to persuade it to follow what he/she advocates.

C. Repetition in the form of identical or equivalent syntactic constructions:

- **The first reason why women should not have an abortion...**
- **The second reason why women should not abort...**
- **The third and most important reason why women should not abort...**

The persuasive effect of the repetition is to emphasise the writer's supporting arguments, as well as to make them more memorable through adding a sense of balance and rhythm.

The writer uses another set of parallel structures

- **She will always think about the baby**
- **She will always think about the future**

Their rhetorical significance is to substantiate the writer's evidence. The writer can develop a powerful climax to the painful psychological consequences of having an abortion, as well as show that it is destructive and undesirable.

D. High modal auxiliary verbs:

- The first reason why women **should** not have an abortion is related to basic human values.
- The second reason why women **should** not abort has to do with religious values.
- The third and most important reason why women **should** not abort is the related to her conscience.
- There are many reasons why women **should** not have an abortion.
- Women **need** to think about their unborn babies who are not responsible for this situation.
- In all religions, abortion is punished and, for this reason, women **should** not abort.
- In some religions, for example, a woman cannot take communion after having an abortion, and before taking communion again, she **must** do many things as a form of penance.

Their persuasive effect is to impress the audience that the writer is a knowledgeable, powerful and authoritative voice and, therefore, can accept his/her argument.

E. Epistemic medium modality lexical verb:

- I **think** that the effects of an abortion can be very sad for everyone involved, both for the woman who has the abortion and for the family who lives with her.

Its persuasive aim is to build a friendly writer-audience relationship and make the audience accept his/her argument, although it is not based on thorough argumentation.

F. First person singular:

- **I** think that the effects of an abortion can be very sad for everyone involved, both for the woman who has the abortion and for the family who lives with her.

Its rhetorical function is to signal the writers' full responsibility for the truth of the claim.

G. Predictive verbs:

The writer uses the predictive verb “will” on a number of occasions.

- If they [women] do, their religion **will** punish them.
- When a woman has an abortion, she **will** always think about the baby she might have had. She **will** always think about the future....
- Because she has had an abortion, she **will** never have a good life, and her conscience **will** remind her of what she had done. Because a woman who has an abortion can't forget **about** what she has done, these thoughts **will** always be with her, and the results can be calamitous.

Their rhetorical function is to build up a forceful image of the painful consequences that will occur as a result of having an abortion in order to carry the audience along them. This image is dramatised by putting it in juxtaposition with the adverbs “always” and “never”.

Activity 3.1 (Time-line: 25 minutes)

Lesson Plan
Session 5: Context exploration (Week 3)
Focus of instruction: Context exploration
Target group: Intervention

The objective of this activity was to familiarise the students with the hypothetical contextual features surrounding the production of a two-sided argumentative text (Appendix 6). To help them collaboratively achieve the task, the teacher instructed them to respond to the following questions:

(i) Who is the audience likely to be?

Researchers, scientists and the public in general are the likely audience.

(ii) What are likely to be the intended audience's main concerns?

The audience's main concerns are the risk of harm to the environment; health hazards on human consumers that the food biotechnology can cause and its manipulation by giant corporations in rich countries.

(iii) What are likely to be the intended audience's main interests?

Consuming healthy foods and keeping a friendly environment are the audience's main interests.

(iv) What purpose(s) could the text serve?

The purpose of the writer was to convince the audience to accept the claim that genetically modified food is not the option to reduce environment pollution and solve the problems of nutrient deficiency and shortage of food in poor countries.

Activity 3.2 (Time-line:75 minutes)

Lesson Plan
Session 5: Text modelling (Week 3)
Focus of instruction: Stages and moves analysis
Target group: Intervention

The teacher modelled and explained the rhetorical stages and moves the writer of the model text employed to achieve his/her ultimate communicative goal.

1. Introductory paragraph

The first introductory paragraph introduces the background information about the issue to grab the audience's attention.

- The use of genetically modified food by man has in the recent past been embraced on large scale in different parts of the world. In the world today, many genetically modified products can be found on the markets and groceries.
- Most consumers are ignorant of the impact these products may have on them. Despite this overwhelming ignorance, many people are waking up and are becoming aware of the effects of consuming GM food. In 2007 for example, 91% of soya bean and about 81% of canola sold in the United States were genetically modified. In addition, many researchers have come up with findings that suggest that about 60% of all processed food is genetically modified.

The second introductory paragraph articulates the writer's thesis statement to be argued for.

- The debate on whether or not there is a net benefit in the consumption of genetically modified food by man has never ended. Even though the use of genetically modified food is believed to have advantageous impacts on humanity such as increased food production, it has some serious disadvantages that necessitate its control. **This paper presents a view to oppose the notion that the use GM food has many advantages (Blake, 1990).**

2. Body paragraphs:

Paragraph 1:

Sentence 1 states the GM food proponents' argument.

Those who support the use of GM food talk of reducing environmental pollution.

Sentence 2 introduces the writer's acknowledgement that some part of the other side's claim may be positive.

This, they say, results from reduced use of pesticides after the modification of crops to make them naturally resistant to pests.

Sentence 3 introduces the writer's rebuttal of the concession argument.

It is however important to note here that there is no real evidence to show that pollution reduces

Sentence 4 and sentence 5 provide and exemplify the evidence why one of the main arguments of GM foods' advocates is refuted and thus the writer's argument is still stronger and has some merit.

Sentence 4

In fact, these are believed to have a counter-effect that would result in serious pollution.

Sentence 5

For example, introducing herbicide resistant crops may result in farmers taking advantage of the fact that the crops are resistant and thus spraying large quantities of herbicides to kill weeds. This would in turn result in an increase in environmental pollution hence a big disadvantage.

Paragraph 2

Sentence 1 states the opposing argument of GM foods' proponents.

Advocates argue that genetic modification can enable crops to carry certain specific vitamins and nutrients that are crucial for human health.

Sentence 2 introduces the writer's acknowledgement that some part of the opposition's claim may be positive.

This, they say, could easily help in solving the problem of nutrient deficiency in poor countries. The best example quoted is Golden Rice which has vitamin A.

Sentence 3 introduces the writer's rebuttal of the concession argument.

However, studies show that in order to get vitamin A one would have to consume at least twice the normal consumption quantities.

Sentence 4 introduces the evidence why one of the basic arguments of the GM food advocates is refuted and thus the writer's argument is still stronger and valid.

This is very ironic because poor people for which the rice is modified would not have the capability to acquire large volumes of rice thus GM food does not enhance nutrient sufficiency.

Paragraph 3:

Sentences 1 and 2 announce the argument of GM foods' proponents

Sentences 1

Researchers that support the use of genetically modified food argue that it could solve the problem of food shortage in developing countries.

Sentence 2

They further argue that this would cater for the continuous increase in human population.

Sentence 3 announces the writer's acknowledgment that some part of the other side's argument may be positive.

It is important to state here that indeed genetic engineering may reduce the costs of production.

Sentences 4 and 5 announce the writer's rebuttal of the concession argument.

Sentence 4

However, it should be noted that the scale of production for the crops does not have a significant increase.

Sentence 5

This can therefore result in reduced yield.

Sentences 6, 7, 8, and 9 provide the evidence why the argument of GM foods' advocates is refuted and thus the writer's argument is still stronger and valid.

Sentence 6

It has been proven that the genetically modified soy bean has about 10% reduced yield as compared to the wild species (Meziani & Warwick, 2002).

Sentence 7

The real cause of hunger in the world is not lack of food supply but the political and diplomatic policies that result in poverty in third world countries.

Sentence 8

Poverty is what in turn results in hunger.

Sentence 9

It is therefore important to note here that even though GM food reduces poverty, most companies that own the biotechnology would restrict the distribution of the technology to the poor countries (Tam, 2000).

3. Concluding paragraph:

Sentence 1 expresses the writer's attitude towards technology in order not to be accused of being an opponent to what is currently.

Embracing technology is not a bad thing.

Sentence 2 leaves the audience thinking about the potential consequences of GM food consumption.

It is however important for mankind to assess extensively the consequences of their actions over a long period of time.

Sentence 3 tells the future would look like if the situation remains the same.

GM foods have not been in existence for a very long time thus it would not be safe for researchers to celebrate that the food is advantageous to mankind, because as it stands now there are many disadvantages.

Activity 4.1 (Time line:50 minutes)

Lesson Plan
Session 5: Text modelling (Week 4)
Focus of instruction: Informal reasoning patterns
Target group: Intervention

The teacher modelled and explained the informal reasoning patterns the writer of the model text employed to substantiate the evidentiary grounds in support of the position taken towards the issue of GM foods.

Body paragraphs

Paragraph 1

In the first body paragraph the writer demonstrates a rationalist informal reasoning pattern to justify the claim of those who advocate the introduction of GM foods based on their merits of being able to reducing eco-friendly. This can be reflected in sentences 1 and 2

Sentence 1

Those who support the use of GM food talk of reducing environmental pollution.

Sentence 2

This, they say, results from reduced use of pesticides after the modification of crops to make them naturally resistant to pests.

Sentence 3 introduces the writer's rebuttal of the other side's argument.

It is however important to note here that there is no real evidence to show that pollution reduces. The writer appeals to a moral concern-environmental pollution- to evoke fear in the minds of the audience because it threatens their common interests and well-being. The writer employs these concerns to develop a rationalistic reasoning pattern as evidence in sentence (4) and to provide extended details through introducing an exemplification in sentence (5) and cause and result reasoning pattern in sentence (6) to back the evidence presented in an attempt to persuade the potential audience to

accept that his / her argument that food biotechnology does not have the advantage of reducing pollution and that his/her counter-position is still valid and verifiable.

Sentence 4

In fact, these are believed to have a counter-effect that would result in serious pollution.

Sentence 5

For example, introducing herbicide resistant crops may result in farmers taking advantage of the fact that the crops are resistant and thus spraying large quantities of herbicides to kill weeds.

Sentence 6

This would in turn result in an increase in environmental pollution hence a big disadvantage.

Paragraph 2

In the second paragraph, the writer introduces another argument of those who support GM foods. It is evidenced in the following two sentences.

Sentence 1

Advocates argue that genetic modification can enable crops to carry certain specific vitamins and nutrients that are crucial for human health.

Sentence 2

This, they say, could easily help in solving the problem of nutrient deficiency in poor countries. The best example quoted is Golden Rice which has vitamin A.

In sentence 3 below, the writer makes use of some factual statements derived from studies to generate informal rationalistic reasoning to serve as evidentiary grounds to refute the argument of those who are in favour of GM foods and introduce his/her counter-argument.

Sentence 3

However, studies show that in order to get vitamin A one would have to consume at least twice the normal consumption quantities.

The writer raises some ethical concerns surrounding the use of GM foods focusing on the argument that poor people “would have to consume at least

twice the normal consumption quantities”in order to gain their potential benefit. The writer’s counter-argument is explained and enhanced with further support in sentence 4 below. The writer shows sympathy and pitiful considerations with poor people cannot afford to purchase large volumes of modified rice, using these concerns to develop informal emotive reasoning to rebut the argument that GM foods are actually meant to help poor people stop the nutritional deficiency they suffer from. and thus to strengthen his / her position towards the issue. This could be evidenced in sentence 4.

Sentence 4

This is very ironic because poor people for which the rice is modified would not have capability to acquire large volumes of rice thus GM food does not enhance nutrient sufficiency.

Paragraph 3

The writer also establishes the pro-GM food argument in sentences 1,2 and 3.

Sentence 1

Researchers who support the use of genetically modified food argue that it could solve the problem of food shortage in developing countries. And that

Sentence 2

They further argue that this would cater for the continuous increase in human

Sentence 3

It is important to state here that indeed genetic engineering may reduce the costs of production.

The writer makes use of his/ her science knowledge and other authorial voices in the issue of genetic engineering and manipulates them to create six rational reasoning patterns that serve as evidence to refute the other’s argument and to persuade the audience that GM foods are not the best environment friendly alternative to alleviate the shortage of foods and enhance their nutrients.

Sentence 4

However, it should be noted that the scale of production for the crops does not have a significant increase. This can therefore result in reduced yield.

Sentence 5

This can therefore result in reduced yield.

Sentence 6

It has been proven that the genetically modified soy bean has about 10% reduced yield as compared to the wild species (Meziani & Warwick, 2002).

Sentence 7

The real cause of hunger in the world is not lack of food supply but the political and diplomatic policies that result in poverty in third world countries.

Sentence 8

Poverty is what in turn results in hunger.

Sentence 9

It is therefore important to note here that even though GM food reduces poverty, most companies that own the biotechnology would restrict the distribution of the technology to the poor countries (Tam, 2000).

Activity 4.2 (Time line: 25 minutes)

Lesson Plan
Session 5: Text modelling (Week 4)
Focus of instruction: Language resources
Target group: Intervention

This session involved exploring language resources the expert writer uses to realise the ultimate communicative goal of model text and develop their awareness of the typical language features employed.

A. Complex grammatical constructions:

1. A contrastive reasoning construction.

- It is, **however**, important to note that there is no real evidence to show that....
- **However**, studies show that, in order to get enough vitamin A, one would have to consume at least twice the daily allowance.
- This would in turn result in an increase in environmental pollution; **hence**, it is a big disadvantage.

Its rhetorical function is to emphasise the alignment of the writer's thesis statement with the opponents of GM foods through bringing it into direct conflict with the advocate's argument.

2. A cause-effect reasoning pattern:

- This is very ironic **because** poor people for whom the rice is modified would not have the capacity to acquire large volumes of rice; thus, GM food does not provide nutrient sufficiency.
- In fact, these **are believed** to have a counter-effect that would result in serious pollution. For example, introducing herbicide resistant crops may result in farmers taking advantage of the fact that the crops are resistant and thus spraying large quantities of herbicides to kill weeds.
- It **has been proven** that the genetically modified soy bean has about 10% reduced yield as compared to the wild species (Meziani & Warwick, 2002).

The rhetorical function of passivation is to strengthen the writer's argument. It helps the writer to bring the findings of the research out more in force. These findings come in support of his / her preferred argument.

Activity 4.3 (Time line: 25 minutes)

Lesson Plan
Session 6: Text modelling (Week 4)
Focus of instruction: Reinforcing
Target group: Intervention

The objective of this session was to practise and reinforce the knowledge the students had acquired in the previous stages. The teacher exposed them to a variety of academic argumentative texts and encourages them to compare them in terms of the rhetorical stages and moves, informal reasoning patterns and language features. The teacher organised students into 5 groups and instructed them to make use of the graphic organisers she developed in the previous sessions. She stepped in and offered them an assistance in the form of discovery-oriented questions: “How many stages could you identify in the text?”; “How many moves could you see in this stage?”; “Highlight the topic sentence in each paragraph?”; “What are the linking words and phrases the author uses to achieve smooth transition of ideas?” and “What are the kinds of informal reasoning you could identify in each stage?”. The teacher provides feedback or answers their questions.

Appendix 9: Joint-text construction

Activity 5.1 (Time line: 50 minutes)

Lesson Plan
Session 2: Joint text construction: Planning (Week 5)
Focus of instruction: Individual brainstorming
Target group: Intervention

Writing task:

The teacher asked the participants to agree on a writing prompt from among the six suggested (Appendix 11). Students chose to write on the following prompt: *“Genetically modified food is believed to promise benefits to mankind and farming engineering, though it has demerits. What do you think?”*

Before they began brainstorming, students were asked to identify the potential contextual factors influencing the co-constructed text. The purpose was to develop a mental representation of the attitudes, beliefs, interests, concerns about and the expectations of the target audience towards the issue of GM foods in order to determine the essay’s ultimate communicative purpose. The teacher encouraged them to identify these variables through responding to a series of open-ended questions:

(i) Who is the audience (likely) to be?

Arab and non-Arab Muslims.

(ii) What are (likely) to be the intended audience’s main concerns?

The extent to which food biotechnology conforms to Quran teachings and the Prophet’s traditions and its potential health hazards for Muslim consumers.

(iii) What are (likely) to be the intended audience’s main interests?

Consuming healthy lawful foods according to Islamic law and maintaining the environment.

(iv) What purpose(s) could the text serve?

Convincing the audience to accept the claim that genetically modified food is not a good option because of religious beliefs, health and environmental reasons.

The objective of this session was to help students to collect information about the writing task. Students were called upon to generate as many thoughts and ideas as they could, drawing on their pre-existing knowledge and experience about the topic. The teacher instructed them to write their ideas down to create a record of their thoughts.

Activity 5.2 (Time-line: 25 minutes)

Lesson Plan
Session 2: Joint text construction: Planning (Week 5)
Focus of instruction: Reading-to write- materials
Target group: Intervention

The aim of this activity was to help generate as many new ideas and thoughts as possible about GM foods. To maximize individual participation in sharing the knowledge students have about the topic, students were divided into two groups: Group A was pro-GM foods and Group B was against the idea. The teacher provided them with reading-to-write materials. They were chosen from various sources such as electronic database, text-books and articles written in simplified English to help provide them with baseline knowledge about the topic, brainstorm their minds to retrieve relevant content words, expressions and sentences. The reading materials express the issue from multiple perspectives.

Activity 5.3 (Time-limit: 25 minutes)

Lesson Plan
Session 3: Joint text construction; Planning (Week 5)
Focus of instruction: Collective brainstorming
Target group: Intervention

The two groups worked together to brainstorm keeping in mind the communicative goal and the audience to justify their choices. Students can make use of the notes they had made in the previous session. Each group nominated one member as a scribe.

When the students came to a point of saturation, the teacher assisted them to generate new ideas by having them respond to problem-solving questions as “What are genetically modified foods”? “Are they advantageous”? “Are they disadvantageous”? “Why do you think so”? “Why do they attract public attention?”

Activity 6.1 (Time-limit: 50 minutes)

Lesson Plan
Session 3: Joint text construction: Planning (Week 6)
Focus of instruction: Organising ideas
Target group: Intervention

The goal of this session was to allow them to refine and list ideas and thoughts. The scribes of the two sides had 5-10 minutes to exchange and compare the ideas generated with the purpose of adding relevant ideas their groups missed or removing the ones deemed irrelevant or repeated. The teacher provided feedback to the scribes when needed. A T-chart with two cells, one cell for each group, was created and ideas were listed in the designated cells. The chart was photocopied and distributed to the students.

Activity 6.2 (Time-limit: 50 minutes)

Lesson Plan
Session 4: Joint text construction: Planning (Week 6)
Focus of instruction: Organising ideas
Target group: Intervention

The objective of this session was to cluster students' ideas. The teacher developed, explained and modelled two skeleton graphic organisers in the form of spider map and webbing to scaffold the activity. Each side worked together, searching for controlling ideas. Each main idea was placed at the centre of spider map and surrounded with bubbles filled with subordinate details such facts, statistics, examples, and elaborations. The key ideas were highlighted and the minor ones were identified with different colour markers. Students established hierarchical and coordinate relationships between their ideas by focusing on: cause and effect, problem–solution, comparison and contrast, and effect and result. With the feedback coming from the teacher and students, the two sides generated concept maps.

Activity 7.1 (Time-line: 50 minutes)

Lesson Plan
Session 4: Joint text construction: Translating and goal setting (Week 7)
Focus of instruction: Translating ideas and goal setting
Target group: Intervention

The objective of this session was to compose an initial plan for the first draft. The writing task - “What do they think of genetically modified foods?” - required students to set a main goal and sub-goals that argued for or against the topic. The con-topic and pro-topic group exchanged their ideas. Each group then works collaboratively to arrange the gathered ideas into draft texts. The focus was to be on content and form; grammatical and mechanical errors would be considered later.

To support them to achieve this objective, the teacher introduced students to an argumentative genre-based planner worksheet (Hyland, 1990, p.69). It

provided them with the scaffold to distribute their ideas in a coherent manner drawing on the headings and subheadings of the planner.

I. Introduction A. Attention grabber B. Thesis statement
II. Essay Body Paragraph 1 1. Topic sentence A. Supporting materials 1. minor support detail 1 2. minor support detail 2 2. Concluding sentence (optional)
III. Concession paragraph: 1. The other side's argument 2. Your position 3. Your refutation
IV. Concluding paragraph 1. A brief restatement of the major issues presented in the body. 2. Moving the audience for action, or over-viewing future research possibilities. 3. Why the topic is important?

Activity 7.2 (Time-line: 50 minutes)

Lesson Plan
Session 5: Joint text construction- Translating (Week 7)
Focus of instruction: Translating ideas and goal setting (continued)
Target group: Intervention

The students continued working collaboratively on the content and structures of their first drafts. The teacher's scaffold centred on directing them to establish their position, to present the background information in the introductory paragraph and to develop supportive materials to back it up in the body paragraphs, to provide counter-arguments, to discount opposing perspectives and to come to a conclusion in the concluding paragraph.

Activity 8.1 (Time-line: 50 minutes)

Lesson Plan
Session 6: joint text construction: Translating ideas and goal setting (Week 8)
Focus of instruction: Translating ideas and goal setting (continued)
Target group: Intervention

The objective of this session was to extend the focus on schematic moves and stages and the content of the essay. Students used the graphic organisers to help them achieve that objective. They took the suggestions and the feedback they had received from peers and the teacher into account to improve the overall quality of their drafts. By the end of this session the participants completed their first draft.

Activity 8.2 (Time-line: 50 minutes)

Lesson Plan
Session 7: Joint text construction: Reviewing (Week 8)
Focus of instruction: Reviewing the second drafts
Target group: Intervention

The focus of this session was to achieve a second draft. In order to help students achieve that objective, a scaffold in the form of open-ended questions was provided (adapted from Reid, 1982, pp. 11-12). Students were asked to evaluate their drafts critically and stop at each question to initiate a top-down problem-solving process.

- *Who is my likely audience? Is it potentially adversarial towards the topic? What are their concerns? What are their interests? Do I address them?*
- *Does my thesis statement fit what I ended up discussing in the body paragraphs of my draft? Should it be revisited?*
- *Does my introduction introduce a well-defined thesis statement and set the context by giving background information for the audience?*
- *Does the introductory paragraph open with an effective “hook” that attracts the attention of the target audience?*

- *Do I consider the audience's potential counter-argument? Do I refute it with relevant and verifiable evidence?*
 - *Do I end up restating my thesis statement without being repeated?*
- Does the concluding paragraph focus the audience's attention again on the main point I have tried to make?*

Activity 9.1 (Time-line: 50 minutes)

Lesson Plan
Session 7: Joint Text Construction: Reviewing (Week 9)
Focus of Instruction: Revising the second drafts (continued)
Target Group: Intervention

The focus of this session was on judging the strength of argumentation by evaluating the relevance, validity, depth and quality of the content. The sufficiency of the evidence and the anticipation and rebuttal of a potential counter-arguments is assessed. Students were engaged in a reflective reading activity (based on the reading materials in Activity 5.2), with the purpose of generating new content knowledge, identifying different perspectives, evaluating supportive materials and detecting their weaknesses and strengths. Students are reminded to keep in mind the ultimate communicative purpose of the essay and target audience's beliefs, knowledge values and attitudes towards the topic, as identified in Stage 1 of the teaching plan.

Students exchanged their ideas and reflect on them, collaboratively construct more integrated conceptual knowledge about the topic. They were to develop factual statements, as well as rhetorical modes including cause or effect, compare or contrast statements, conditional patterns, exemplifications and elaborations. They integrated the new knowledge into their second drafts, articulating informal reasoning patterns. They also made use of enhanced content knowledge to address opposing viewpoints and discredit their premises.

Activity 9.2 (Time-line: 50 minutes)

Lesson Plan
Session 8: Joint Text Construction: Reviewing (Week 9)
Focus of Instruction: Reviewing the third drafts
Target Group: Intervention

The focus of this session was on developing a third draft. The teacher employed cognitively goal-directed questions such as “Tell me more about...” or thinking questions “What evidence supports your answer?” or “If someone disagreed with you, how you would convince them that your answer is the best? or hint questions “Are there other reasons why your claim is true?” The aim was to guide their thinking to establish evidence, to reflect on their claims and construct further explanations, justifications, causes and consequences.

Activity 10.1 (Time-line: 50 minutes)

Lesson Plan
Session 8: Joint Text Construction: Reviewing (Week 10)
Focus of Instruction: Reviewing the third drafts
Target Group: Intervention

In order to guide students to employ the new topic content knowledge to review and strengthen the persuasiveness of their drafts, they were provided with a set of scaffolding prompts in the form of questions (adapted from Reid, 1982, pp. 11-12). When reading and reflecting on their drafts, students are asked to stop at each question to initiate a top-down problem-solving process to help them write their final drafts.

- *Is my evidence well-developed and substantiated with explanations and justifications or is it merely unsubstantiated opinion or observation?*
- *Do I do consider the multiple and competing perspectives surrounding the topic when developing the supporting materials to strengthen the evidence?*

- *Do I use sufficient topic content knowledge to develop and defend my claims?*
- *Do I align my position with the moral/ethical considerations and religious concerns and beliefs that the target audience values and observes?*

Activity 10.2 (Time-line: 50 minutes)

Lesson Plan
Session 8: joint text construction: Reviewing (Week 10)
Focus of instruction: Reviewing the third draft (continued)
Target group: Intervention

The goal of this activity was the revision of the third drafts to ensure the internal unity of each paragraph and the coherence of the essay overall. Language issues were dealt with, including use of asserting verbs, hedging and evaluative vocabulary, and cohesive devices such cause-result, conditional, parallel, co-ordination and subordination structures, transitional signals, repletion, etc.

Peer revisions and the teacher's scaffolds lead most of the participants to make improvements, ensuring the logical progression of each body paragraph with the one that preceded and followed and smooth internal connectedness.

Activity 11.1 and 11.2 (Time-line: 2x50 minutes)

Lesson Plan
Session 9: Joint Text Construction: Editing (Week 11)
Focus of Instruction: Editing the third drafts
Target Group: Intervention

The focus of this session was on editing the surface-level features of the draft texts. Students are provided with a checklist in the form of questions.

- *Are words capitalised correctly?*
- *Are sentences punctuated correctly and free of fragments and run-ons?*

- *Is the writing legible?*
- *Are there any grammatical mistakes in sentence structures; the use of verb (tense/form); subject-verb agreement; the use of articles; the use of modal verbs; the use of prepositions?*

Activity 12 (Time-line: 2x45 minutes)

Lesson Plan
Session 9: Independent writing (Week 12)
Focus of Instruction: Writing an argumentative essay
Target Group: Intervention

Writing task

The teacher instructed the intervention- group participants to individually write an essay about the topic of GM foods “*Genetically modified food has its own merits and demerits. What do you think?*” The teacher allowed students to use all the supportive tools - such as graphic organisers that show the moves and stages and the recurrent linguistic resources and the types of informal reasoning patterns employed by the writers of the model texts that collectively guide and contribute to the hierarchical structuring and logical sequence of argumentation in pursuit of realising their rhetorical communicative goals. The students were given (2x 45 minute) time - a time considered ample to complete the task of writing an essay (White, 1994). The length of the essay is between 250-300 words. At the end of the session, the teacher collected and marked them.

Appendix: 10: Product-based writing instruction

Sessions 1, 2, 3 and 4 (Time-line: 8x 50 minutes)

Lesson Plan
Grammar instruction (Weeks 1, 2, 3 and 4)
Instruction Focus: Drilling particular exemplar sentence patterns
Target group: Non-intervention

The teacher instructed the participants to join pairs of sentences using the relative pronouns *who*, *whom*, *whose* or *which* and the connectives *as*, *but*, *yet*, *so*, *both...and*, *either...or*, *neither...nor* given in brackets. She asked them to produce sentences with similar structural pattern and copy them in their note-books. The teacher asked them to manipulate the structural patterns and employ them to produce sentences of their own and copy them in their note-books.

* The teacher instructed the participants to complete sentences by choosing one of the phrases given in brackets to convert *direct questions* into *indirect ones*. She asked them to manipulate the structural features of the sentences to produce ones of their own and copy them in their note-books.

* The teacher asked the participants to join the sentences using the words *when*, *what*, *where*, and *why* making any necessary changes in the structure of the sentences. She instructed them to manipulate the fixed patterns of the model to produce sentences of their own and copy them in their copy-books.

Sessions 5, 6, and 7 (Time line: 6x 50 minutes)

Lesson Plan
Grammar instruction (Weeks 5, 6 and 7)
Instruction focus: Common grammatical mistakes
Target group: Non-intervention

The teacher supplied the participants with 100 sentences with common errors including those involving vocabulary, grammar, and mechanical errors involving spelling, capitalisation, and punctuation. She instructed them to identify and correct the common errors. She asked the participants to copy the corrected sentences in their note-books.

Sessions 8 and 9 (Time line: 4x50 minutes)

Lesson Plan
Rhetorical structure (Weeks 8 and 9)
Instruction Focus: Functional components of a paragraph
Target group: Non-intervention

The teacher introduced a graphic organiser that manifests a structural pattern of a paragraph. She explains:

- * the constitutive elements (topic sentences, support sentences, concluding sentences, and transitions) of each paragraph.
- * how these sentences were related to the main idea in each paragraph.
- * the various options for the development of each paragraph (illustration, exemplification, comparison, contrast, classification, definition, causal analysis, and so on).
- * where the main idea was to be found in the paragraph. The teacher asks the students to complete a paragraph by adding an ending or a beginning or a middle section provided by the teacher.

The teacher instructs the participants to respond to the following comprehension questions to achieve the learning points of the session (adopted from Alexander, 1965, p.16):

- (i) What do we learn in the first sentence and how is it related to the rest of the paragraph?
- (ii) What words and phrases are used to connect the sentences to each other?
- (iii) What was the main idea in the paragraph and in which sentence is to be found?
- (iv) How is the idea developed?
- (v) How each sentence in the paragraph is related to this main idea?

Sessions 10 and 11 (Time line: 4x 50 minutes)

Lesson Plan
Rhetorical structure (Weeks 10 and 11)
Instruction Focus: Argumentative Writing Instruction
Target group: Non-intervention

The teacher explained:

- (i) The communicative goals of the argumentative essay and the argument (arguments) used.
- (ii) The functions of each of the macro constitutive components of the argumentative essay; Introduction, Development and Conclusion.
- (iii) The rhetorical devices (illustration and contrast) for the author to use to make abstract ideas clear.
- (iv) Ordering of ideas to provide raw materials for planning argumentation writing.
- (v) The style (simplicity and clarity) of argumentation writing.

The teacher explained how the key words and phrases and the topic sentences were used to develop the argumentative essay writing.

The teacher focused on questions and prompts to check the understanding of the learning points of the session (adapted from Alexander, 1965, p.16):

- (i) What is the writer's aim?
- (ii) Does the introduction give a clear indication of the writer's point of view?
- (iii) What is the premise of the writer?
- (iv) Find instances of inductive or deductive reasoning?
- v) Is the writing simple and clear?

- (vi) Does each paragraph add something new to the argument? What?
- (vii) Pick up examples of (a) illustration; (b) contrast the writer uses to make abstract ideas clear.
- (viii) Is the writing simple and clear?
- (ix) Show the relationship between the plan and the finished essay.
- (x) Comment on the writer's presentation of facts.
- (xi) Does the conclusion round off the essay in a satisfactory way?

Sessions 11 and 12 (2x45 minutes)

Lesson Plan
Session 9: Independent writing (Week12)
Instruction focus: Writing an argumentative essay
Target group: Non-intervention

Writing task

The teacher instructed the non-intervention- group participants to individually write an essay about the topic of GM foods “Genetically modified food has its own merits and demerits. What do you think? The teacher allowed students to use all the supportive tools - such as graphic organisers. They were allocated (2x 45 minute) time- a time considered ample to complete the task of writing an essay (White, 1994). The length of the essay is between 250-300 words. At the end of the session, the teacher collected and marked them.

Appendix 11: Writing prompts

Dear participants:

The following writing prompts are about the issue of GM foods. They are written in plain English to ensure that you would understand them easily. The choice of this issue was based on two reasons: First, it appeals to your interest since it has vastly become one of the topics that give rise to intense controversial debate around the Islamic world. Second, it is accessible and familiar to you in that you have baseline background knowledge about it. Please, read the writing prompts and choose to write about one of them.

Prompt 1

Genetically modified (GM) foods have the advantage of eliminating or alleviating starvation that millions of people around the world suffer from. Others however hold the opposite perspective. What do you think?

Prompt 2

The issue of genetically modified foods has been the subject of debatable perspectives. What is your view?

Prompt 3

Genetically modified food has the advantage of having more enhanced nutrients to fight malnutrition. Others warn against its potential health hazards. What do you think?

Prompt 4

The issue of genetically modified (GM) foods has raised great debate attracting polarized views and opinions among Muslim theologians and scholars, public and government officials. What is your position?

Prompt 5

Genetically modified (GM) foods have the advantage of boosting the economy of developing countries and preserving nature. Others counter this argument. What is your view?

Prompt 6

Genetically modified (GM) food have been the subjects of numerous debates. Many arguments have been presented in support of and against the GM crops. What is your opinion?